

ITEMS OF INTEREST.

VOL. XIV.

PHILADELPHIA, SEPTEMBER, 1892.

No. 9.

Thoughts from the Profession.

DENTISTRY AS A PROFESSION.

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We are now fast approaching a line of a profession, and profession means brotherhood. As dentistry began generally with personal friendships, coupled with some mechanical skill and a few tools, and the desire to assist those who were afflicted by the loss of their teeth through accident, neglect or hereditary proclivities, and largely as a matter of sympathy for the suffering, the attempt was made to aid to a more comfortable life; and dentistry was born. In the beginning each individual was isolated, and worked alone by himself and for himself; but as the demand grew the thought grew, friendship grew, and concert of action, and education, and science and higher laws presented themselves, that commanded the attention of those most devoted to their calling, and by a law of nature strictly in accordance with evolution, as all the improvements in civilization have come since the primitive man saw a God in every object in nature that he could not comprehend, and so by a law of progress, till to-day we have reached a time when we see one overruling power holding all worlds, so to speak, in the hollow of His hand. And so we see all this individual labor of the past fifty years in our own calling corresponding and forming a common brotherhood, and striving to raise the members to a oneness that shall correspond to our ideas of a Creator, that we may go forward to higher aims and loftier achievements. The three subjects on which we are not united, and on which there is the greatest diversity of opinion, at this time, are artificial crowns, bridge-work, and pyorrhea alveolaris. The capping of exposed pulps is assured, if done with care by good operators; it is no longer empirical or guess-work. These three subjects have been evolved out of the growth of dentistry as a scientific study and pursuit. The fitting

of the band is the most important thing in crowns and bridge-work, after removing the enamel at the gum and leveling the root so the band will slide as accurately as the section of the telescope. To get the exact measure for the band, take a fine wire thread, three inches long, and loop it in the middle by twisting the two ends together till it is almost small enough to go over the end of the root; now take a watchmaker's sliding-pin vise, and take hold of the twisted end of the wire; slip the loop over the root, and pull the wire gently against the posterior side, and twist the loop till it is tight all around; this can be told, as when it is all tight the wire will kink; take it off and cut the wire opposite the twist and straighten it, and you have the exact measure of the root. The advantage of this way over the pliers generally used, is that the left hand is free to hold the wire in position, and the right hand has constant hold of the wire, and it is always away from the lips, and the back teeth are measured as easily as the front teeth, and can be measured across the mouth on one side as well as the other.

It will often be a cause of disappointment to any dentist who undertakes to do crown- or bridge-work with porcelain facings, without the protection of gold to prevent their breaking; to do this after you have fitted the teeth a little short of articulation, square the ends or cutting-edges, back them with thin platinum, bend the pins and do not let the platinum come over the end of the tooth; now take a piece of gold plate, twenty in thickness and large enough to cover the end of the tooth, and butt it up to the end of the backing, wax it in place, bed it in plaster, and solder as is usually done in backing a tooth. This will make a beautiful finish, and serve as protection when you solder for the final finish.

If you have a broken tooth and do not wish to remove the bridge, select a tooth that will not quite reach to the old backing; now take a strip of very thin platinum and wide enough for a backing, and leave the ends long crosswise, and flow gold over one side, and back and solder to the pins; now square the old backing that is on the bridge, put the tooth in place and bring the long ends together round the old backing; now remove the tooth and fill the slot with yellow ochre, to keep the solder out, and solder the band together; this will leave a pocket to receive the old backing that is on the bridge, and fasten it in place with amalgam. The object of flowing gold over the platinum is so the amalgam will unite with it, as it will not unite with platinum. When a root is very short, take a fine hairpin and bend it in form of a button hook, barb the long end and cement it in the root before cementing on the crown; or if the root is sufficiently strong, make a staple and anchor into

the canal, and your crown will never come off. A hairpin is best, because it is covered with a varnish that prevents rusting with the cement.

If a crown is to be attached where the pulp is not exposed, cut two very fine horizontal grooves around the root, to hold the cement, as it always leaves the tooth before it will come out of the band. What are known as Richmond crowns are par excellence for artificial substitutes; removable bridge-work is next; and the permanent bridge is safe practice where we have an anchor at both ends of the bridge.

Beware of arm sections such as are newly patented by Dr. N. I. Goodwin, of Hartford, Conn. I have experimented with some, years ago, with every prospect of success, but they were entire failures.

In pyorrhea I know of nothing that will compare with carbolized potash, known as Robinson's Remedy, to effect a permanent cure, and it is the best thing I have ever used as an obtundent for sensitive dentine. I introduce two letters, from patients who had the worst cases I have ever seen, that will speak for themselves. After applying the remedy according to directions, I pack the gums with carbonate of lime which is an antacid, absorbent, and astringent, and press the gums close around the teeth to keep out all secretions, and if you have been thorough enough with your chisel to remove all calcarious deposit and produce a new wound at the alveola, it will heal by first intention if the secretions and air are kept out, for all life and all cure comes from within. I have cured a number of molars where the absorptions had been so great that I could press a small instrument between the bifercated roots, but I could not restore the gums. The teeth remained quite firm without any artificial support. In treating such cases I tie a piece of floss silk to the cotton rope, saturated with the remedy, to fish it out when the medicine has done its work. I also give a box of carbonate of lime for the patient to pack the teeth and gums every night before going to bed, as the gums are more liable to infection while in repose than during the day; also insist on thorough brushing at night before packing the gums, as bacteria are more liable to find a lodgment during sleep. Wounds of the soft tissue must be kept airtight to heal by first intention, as the process of granulation is very slow if disturbed by mastication. We must follow nature's process of cure if we expect to achieve success. When the earth was undergoing gestation, in the fullness of time, trees and plants came forth to fit it for the abode of man, then man was born. The primitive man has been making mistakes and blundering for centuries, and

his modes of living have brought destruction to his teeth, and at last man resorted to mechanical contrivances for self preservation and relief. As the necessities grew on the race, new methods of investigation rose with the occasions, chemical affinities were discovered, and when the sympathetic character became coupled with the opportunity, a series of efforts grew into the occasion, to give life and permanence to a new profession; then dentistry as a profession was born. Those who have been working for half a century or more can recollect when the germs of what is now a noble profession sprang into being. When we began to work, our failures and our difficulties suggested new methods and modes of practice; then, by transformation and transmutation, and genius, and diligence, and industry we advanced step by step, gaining only a little the first twenty-five years. Then came the rubber-dam, the dental engine, the cements, the improved disks, the mallet, and painless extraction of the teeth and cohesive foil seemed almost born in a single year. Colleges were endowed and we were enrolled among the learned professions. Civilization and the arts, science and morals are twin brothers of the same great family.

"All are but parts of one stupendous whole,
Whose body nature is and God the soul."

It is the same with mechanics and professions. Man is never quite satisfied; when his physical wants are all supplied he is striving for something more. We want something higher and better, and all his wants are born out of a previous condition. It is like the birth of water. When hydrogen and oxygen are brought together then water is born, and the new birth brings plants, leaves and flowers to correspond to the surroundings that it took ages of the earth's rotation and gestation to produce. The sliding scale may consume ages, but the leaves, the plants and flowers are a new creation. So it required a higher culture and civilization to bring forward our beautiful profession. The recent discussion about contour and face fillings is easily disposed of; when the axis of the tooth corresponds with the axis of the occluding tooth or teeth it will never tip forward or backward, and it is the same with artificial dentures.

And now, at the close of the nineteenth century, we behold a profession born within the century. We urge the fathers of the profession to hand it down to succeeding generations, with all the growth and improvements, that they may be true and faithful to the professional character, and grow higher and broader to the end of time.

WASHINGTON LETTER.

WHAT HAS BEEN DONE AT THE NATIONAL CAPITAL DURING THE MONTH
IN THE INTERESTS OF THE DOCTOR, SURGEON,
DENTIST, DRUGGIST, ETC.

After my letter of last month closed, the homeopathic physicians transacted but little business before they adjourned to meet in Chicago next year. They adopted resolutions discountenancing the patent-medicine man, and providing for his expulsion from their society; endorsed the Paddock pure-food bill, and recommended its passage by the House; and denounced the chloride of gold cure as a humbug; and then went over to Baltimore to attend a reception by the Southern Homeopathic College.

The first week of this month was insufferably hot, and ran our death-rate up from 143 last year to 152, or 15 more than in the week preceding. Of these deaths, 84 were children under five years of age, and 73 were under twelve months; 44 deaths resulted from diarrhea, and many more were chargeable indirectly to the heat. Not one death resulted from malaria, which speaks well for our city in summer. We have a ship anchored down the Potomac, whereon all small-pox patients are put; but I regret to say that thousands of excursionists pass this ship daily, and run the gauntlet of that dread malady. It should be stationed a few miles lower down—beyond the path of the excursion boats. The following week, and each one since, shows an encouraging decrease in the death-rate; but it will rise again when real hot weather returns.

The Agricultural Department reports that the enforcement of the meat-inspection law of March 3d, 1891, has added at least 1 per cent. a pound to the value of hogs marketed since the withdrawal of the foreign prohibition. The governments of the world are looking with great favor on this stringent inspection of ours. The U. S. Manufacturing Chemists' Association has protested against the bill to prevent the adulteration and misbranding of foods and drugs; and the N. J. Pharmaceutical Association has petitioned Congress to adopt the metric system of weights and measures in the customs service.

With the 1st of July the city adopted a system of carrying off garbage in patent air-tight steel carts, and treating it with exhaust steam, to pass the offensive gases into the sewers. The plan works well, and we are delighted.

The Capitol building has been examined by experts, who report its sanitary condition as something awful, and the plumbing in the

Supreme Court chamber as a "sanitary curiosity." The plumbing is said to be from forty to ninety years old ; and even the Senate restaurant needs entire reconstruction. It will take about \$90,000 to renew this plumbing entire, and Senator Vest has urged the spending of that sum, to be incorporated in one of the appropriation bills. The matter meets the approval of everybody, and no doubt will go through without opposition. It is expected the work will be done during the summer, so that the Supreme Court, which meets in October, will have a clean and healthy home to work in, as well as both Houses of Congress when they reconvene in December.

HARMONY AND DISCORD, HEALTH AND DISEASE, HEALING AND HINDERING.

DR. J. B. DAVENPORT, PARIS, FRANCE.

The life of an individual in its entirety is the result of the total functional activities of every organ in the body.

The life of an individual in relation to all the functions of the body may be compared to an army. The medulla may be likened to the general, who, by a single surrender, may paralyze the entire force ; the cerebrum to the staff officers, or minister of war, whose counsels may be either good or bad ; the heart and lungs might represent the trusted corps, whose failure would bring destruction to all ; the pneumogastric and sympathetic nerves connecting the heart and lungs with the central organs, to the lines of communication between the corps and the central command, and, if broken, favors irregular action that would be disastrous.

The rank and file of private soldiers are the representatives of the many simple functions, such as the special gland and nerve cells, whose extensive destruction brings direct disaster, and *any* destruction is dangerous to all in proportion as such loss yields the balance of advantage to the enemy.

Perfect health can continue only when all the functions of the body are perfectly performed.

Any degree of bodily vigor is consistent with health so long as all the functions are performed in harmonious relation—the powerful athlete and the frail woman may possess equal health, though the forces or quantity of life possessed by each are widely different.

If we could imagine a being endowed at birth with organs and functions so related as to constitute perfect health, and preserving all those fine adjustments till every organ had served out its appointed time ; death to such a one would be but the opposite

boundary of the total endowment of vitality bestowed at its conception; a mere disunion, just as the ripened golden fruit, which always grew in harmony with nature's law, falls loosened by the dew or evening's breath.

Organs are so intimately related that derangements of the function of one affect the working of others, and the fine balance which constitutes the basis of health is disturbed, imperceptibly at first, but unless corrected always tends further from health and nearer recognized disease, just as two parallel lines made to diverge ever so little, at last are widely separated.

Some organs may be performing vicarious functions, and be loaded to so near their own limit that a little extra emergency, which ordinarily they would be competent to withstand, determines their failure. "The last straw broke the camel's back."

We never know the weak point in our organic machinery till it breaks or begins to break. Nature's handiwork should be looked on with reverence, *and we are surely wrong if ever we oppose the laws which govern them. Nature left alone may fail to successfully combat disease, but meddlesome treatment, that which is opposed to natural laws, will surely hasten failure.*

Nature at times seems prodigal with her supply, but often her provisions are not so abundant as we think. "The sands run out," and nothing turns the hour glass to restore our youth; wasted energy does not come back.

Man is not provided with new organs for those removed by the surgeon's knife; his sun of life is lessened by disease, even though he live out his appointed years.

There is more life lived in a year of health than in the same time spent with the functions clouded by disease.

Organs are the vehicles, and nutrition the force of life, digestion the process on which that force depends, and food is the substance on which digestion acts.

Man needs a varied supply, to meet which the digestive organs constitute a series of chemical laboratories stationed along the food stream, for the extraction of every needed principle of force.

Dentists stand guard over the beginning of this holy process, this work by organs prepared for them to do.

Shall he mar and mangle what was deemed fit to do an important work, or shall he restore the harmony of any disturbed function?

Thorough reduction of food is essential, and digestion is active or sluggish, according to whether the reduction was perfect or imperfect.

Insalivation is directly related to mastication. Dalton showed that on the side engaged in the act of mastication, the corresponding parotid gland secreted three times as fast as that of the opposite side, and besides facilitating the reduction of food, it is more and more evident in physiological studies that the thorough mixing of saliva with the food in the mouth is essential, and that the saliva is a true digestive of certain food elements.

Till we can exactly calculate the importance of a normal mixing of saliva with the food on the process of digestion, and know all the remote effects traceable to it, we must assume that this process is essential, and that the best interests of the body require its perfect performance.

We may also suppose, and the supposition is proved to be true by clinical and personal experience, that the well being of the individual requires that mastication be perfectly performed, not simply for the mere reduction of food, but that insalivation may also be completely accomplished, and to that end both sides of the dental arches ought to be equally competent to perform their functions.

A patient had lost all her right lower molars and all the upper teeth, and mastication was accomplished entirely on the left side, between the molars and a plate worn above. There was an excessive development of the masticatory muscles of that side, and a corresponding atrophy of those on the opposite side, the left masseter was more than twice as thick as the right, and this difference, added to the sunken condition due to the loss of the right molars, caused the deformity of the face to be very marked.

The patient objected to wearing a lower plate, so to partially correct the deformity, a large plumper was added to the right side of the upper plate.

DENTAL LAW OF THE DISTRICT OF COLUMBIA.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That it shall be unlawful for any person to practice dentistry in the District of Columbia, unless such person shall register with the Health Officer in compliance with the requirements hereinafter provided.

SEC. 2. That a board to carry out the purposes of this Act is hereby created, to be known as the Board of Dental Examiners, to consist of five reputable dentists resident of and for three years last before appointment actively engaged in the practice of dentistry in the District of Columbia, to be appointed by the Commis-

sioners of said District for terms of five years, and till their successors are appointed; *Provided*, That the first five appointments shall be made for terms of one, two, three, four and five years, respectively. A majority of said board shall constitute a quorum. Vacancies occurring in said board shall be filled by appointment of eligible persons for unexpired terms.

SEC. 3. That it shall be the duty of the Board of Dental Examiners, first, to organize by electing one of their number President and one Secretary, to provide necessary books and blank forms, and publicly announce the requirements of this Act, and the time, place and means of complying with its provisions within thirty days from its passage; second, to promptly certify to the Health Officer for registration all who are engaged in the practice of dentistry in said district, at the time of passage of this Act, who apply therefor; third, to test the fitness and pass on the qualification of persons desiring to commence the practice of dentistry in said district after the passage of this Act, and certify to the Health Officer for registration such as prove, under examination in theory and practice of dentistry, qualified in the judgment of the board to practice dentistry in said district; fourth, to report immediately information of any violation of this Act, and, annually, the transactions of the board to the Commissioners of the District of Columbia; *Provided*, That all graduates of dental colleges, which require a three years' course of study, shall be entitled to certificates on payment of the certification fee, and without examination as to their qualifications.

SEC. 4. That it shall be the duty of every person practicing dentistry in said district, at the time of the passage of this Act, to make application to said board, in form prescribed by said board, for certification, and present the certificates thus obtained for registration to the Health Officer within sixty days from the passage of this Act. Every such person so registering may continue to practice without incurring the penalties of this Act.

SEC. 5. That persons desiring to commence the practice of dentistry in said district after the passage of this Act, shall first obtain a certificate of qualification from the Board of Dental Examiners, granted under authority conferred upon said board by Section 3 of this Act, and present the same to the Health Officer for registration.

SEC. 6. That it shall be the duty of the Health Officer to register all persons presenting certificates from said board in a book kept for this purpose, and indorse upon each certificate the fact and date of such registration.

SEC. 7. That certificates issued and indorsed under the provisions of this Act shall be evidence of the right of the person to whom granted to practice under this Act.

SEC. 8. That any one who shall practice, or attempt to practice dentistry in the said district, without having complied with the provisions of this Act, shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be fined not less than fifty nor more than two hundred dollars, and in default of payment of such fine shall be imprisoned not less than thirty nor more than ninety days, said fines, when collected, to be paid into the Treasury of the United States, to the credit of the District of Columbia; *Provided*, That nothing in this Act shall be construed to interfere with physicians in the discharge of their professional duties, nor with students pursuing a regular uninterrupted dental college course, or in *bona fide* pupilage with a registered dentist.

SEC. 9. That to provide a fund to carry out and enforce the provision of this Act, the Board of Dental Examiners may charge such fees, not exceeding one dollar for each certificate and ten dollars for each examination, as will from time to time, in the opinion of said board, approved by said Commissioners, be necessary. From such fund all expenses shall be paid by the board; *Provided*, That such expenses shall in no case exceed the balance of receipts.

Approved June 6th, 1892.

THE RELATION OF THE OLD TO THE NEW.

"We speak of the art of printing as modern. But the Romans used movable types to mark their pottery and indorse their books. Mr. Layard found in Nineveh a magnificent lens of rock crystal, which Sir D. Brewster considers a true optical lens and the origin of the microscope. The principle of the stereoscope, invented by Prof. Wheatstone, was known to Euclid, the negro; described by Gallen 1,500 years ago, and more fully in 1599 A. D., in the works of Baptista Porta. The Thames tunnel at London, and later that at Chicago, were anticipated by one under the Euphrates, at Babylon, and the Egyptians had a Suez canal thousands of years before the present waterway was built. Such examples might be indefinitely multiplied; but turning to photography, M. Jobard, in his 'Nouvelles Inventions aux Expositions Universelles,' 1556, says a translation from German was discovered in Russia, 300 years old, which contains the clear explanation of photography. The old alchemist understood the properties of chloride of silver in relation to light,

and its photographic action is explained by Fabricius in 'De Rebus Metallis,' 1566. The daguerreotype process was anticipated by De La Roche in his 'Giphantie,' 1760, though it was only the statement of a dreamer.

"The use of the cork for making jackets as an aid in swimming, and now familiar to ocean travelers in the so-called life-preservers with which steamers are equipped, is very old. A Roman, sent by Camillus to the capital, and who had to swim the Tiber to evade the besieging Gauls, wore cork under his attire in order that he might float. The pyramids of Egypt and the foundation walls of the temple of Jerusalem contain stones of such size and weight that it is hardly possible for them to have been put in place without mechanical power equal to any now known. Was it steam that supplied this power, or was it some device which has now become a 'lost art?' Perhaps they had their Edisons, their Watts and their Stephensons in those days, who, like the builders of the tabernacle in the wilderness, were cunning workmen, equal to any emergency, but who, when the need of their services no longer existed, dropped back into modest obscurity. It may be, also, that the patent system of the ancients did not encourage the development of inventive genius. Now, when a man invents a really useful article, his fame and fortune are fairly well assured. It was not so then. A Roman architect discovered the means of altering the nature of glass and making it malleable. He produced all the malleable glass which the Emperor Tiberius desired, and then, to prevent the secret becoming known, the monarch cut off the inventor's head.

"So late as the reign of Louis XIII, a similar discovery was made; but Cardinal Richelieu was afraid it would injure the French glass manufacturers, of whose profits, after the style of government 'paternalism,' then in vogue, the prime minister probably had a liberal share; so the man with a too inquiring mind was put in prison, and there remained all his life. That sort of thing was not calculated to send men on exploring expeditions into the 'dim unknown,' and Edison and his guild, had they lived then, would hardly have found a profitable field for their inventive talents."

Thus far we have copied from the *Troy Daily Times*. Now, what is the moral of all this? It illustrates, first, the fact that nearly all the great inventions and discoveries have been produced in an imperfect and often impracticable form by other parties long before they have been brought out successfully by their more modern inventors. It frequently happens, indeed, as in the cases of Bell's telephone, Bessemer's steel process, Montgolfier's balloon,

and Stephen's locomotive, that almost precisely the same inventions had been previously though abortively brought out; and if the patent laws and the criticism of the time had not been construed liberally, the two first would have lost their patent rights and the two latter the credit of their discoveries. But will not the value of their achievement be just as great to the world as it would have been if they had not been almost anticipated? and would it not have been a great loss to the world if they had been prevented from bringing their ideas into practice by the idea of expectation that these prior proximate anticipations would be sufficient to rob them of the pecuniary results or the credit of their inventions? We think the new German patent law introduced a capital and useful innovation, though in a very rudimentary form, in decreeing that any anticipatory publication of more than a century old should have no effect on the validity of a patent. We think that, instead of one hundred years, it should have been thirty, and that on the next revision of our own patent laws a clause of this nature should be inserted.

—Discovery.

PRODUCING CONTOUR FILLINGS.

When attendant circumstances do not contra-indicate its use, gold undoubtedly will give the greatest satisfaction where any considerable portion of a tooth must be reproduced. I have known men who have claimed that they could make a permanent contour with *non-cohesive* gold. I do not doubt that such men do what they claim, but these individuals are rare. Therefore, I advise the beginner to depend on *cohesive* gold when his filling must extend beyond cavity-borders. Moreover, I would suggest that he obtain gold *as cohesive as it can be made*.

There are methods of manipulating gold, essential when contour is to be reproduced, which may not be so in ordinary cavities. For example, a filling might be made hollow, provided it touched the walls at all points. This would be a grand error in a contour filling. It has been stated by some that a large cavity may be well filled with crystal gold, the inner portion being only partly condensed, provided the outer third be made solid. However, this may be in ordinary work, it is not to be thought of in contouring. In placing a contour filling every piece of gold, from the first to the last, must be thoroughly condensed, and each pellet should display perfect cohesion. To take up these two points separately for a moment: Let us suppose an ordinary cavity with surrounding

walls; it is half filled; the operator places a pellet, and mallets it less thoroughly than he has done its predecessors. He adds another, and continues the malleting. Of course, the force of the blows will further condense the under pellet. Even if it be not completely condensed, the fact that the shape of the remainder of the cavity is retentive without regard to that part already filled, makes it of no moment whether that one pellet is, or is not, thoroughly packed. With a contour filling it would be a hazardous oversight to leave a single pellet of gold insufficiently condensed. That point would be a weak spot. If heavy foil is being used, the rule is even more imperative. Every layer must be thoroughly condensed before the next is added, because with this kind of gold more than any other, an underlying layer is less likely to be condensed where another is superimposed before the malleting is completed. For a similar reason, however much need there may be to hurry, the dentist should never pick up two or three pieces of heavy foil at one time and attempt to condense them in that form; the ends, being irregularly arranged, will fold one over the other in such shapes as to offer the greatest possible resistance to the mallet, the result being improper condensation.

With the other point, relative to cohesion, the necessities for extreme caution, extending to every pellet, become evident along the same lines of argument. It is as bad for a filling to fracture because one layer did not cohere, as because there was a flaw from lack of solidity. As before, non cohesion, or slight cohesion, may be overlooked in the body of a cavity having surrounding walls, because what is placed above it will still be retained by the upper part of the cavity. It is otherwise with the contour filling. If only one layer, especially if it be of heavy foil, fails to cohere, all that which follows is but added to, and is not a part of, the filling. A fracture may be expected at any time.

It, therefore, follows that the size of the pellets, or strips of heavy foil, should not be increased near the end of the filling to hurry the work. Larger pieces will render solidity and cohesion both less liable. Above all things, large or even moderate-sized foot-pluggers are to be avoided, though more permissible with the Bonwill mechanical, or the electrical mallet, than where a hand-mallet or hand-pressure is relied on. I wish to condemn the foot-plugger for this class of work, yet must speak with caution. Many men of skill use the foot-plugger with success, and with more rapidity than where another form was chosen. But these men select a foot-plugger which is narrow, and reaches a sharp point at one end. Thus, in one instrument is had the action of a foot-plugger, or of a

point. What I am advising against is a broad, flat, and unusually long foot-plugger. This condenses so much surface at once that thorough cohesion is doubtfully obtained.

One more essential point: In packing any filling I make it my rule that, from the very initial pieces, the shape of the cavity must be such that I can use the mallet, without needing another tool to hold the gold steady. This is the rule; exceptions exist, but are very rare. *Applied to contour fillings, the rule must have absolutely no exceptions.* Every piece of gold as it is added must produce a filling, as far as the work has progressed, to dislodge which would require the engine drill. If at any time it is found that the filling will tip, or move in the slightest, the operator may as well remove his gold, and reshape his cavity. To emphasize this point, I will relate a case which occurred early in my career.

I was asked by a dentist, whose experience and skill were much respected by myself, to be at his office one afternoon to assist him in placing a large contour filling. He wished me to mallet and pass the gold. I did so. The tooth was a central incisor. The operator had prepared a cavity retentive in shape, merely because with a wheel-bur he had made an undercut, or groove, all around. This is exactly the plan to be followed in similar cases, where from abrasion the ends of teeth have been worn away, and it is desired to stop the destruction by offering masticating surfaces of gold. Then the filling is made *flush with the top of the tooth*, and will remain in place even though it must be held with another instrument all through the process of packing. (This, of course, need not be if the groove be properly shaped to retain the first pellet.) To so arrange a cavity, however, where, as in the case which I am citing, *about one-quarter of the length of the tooth was to be restored*, was absurd. Thus I thought, but of course made no comment. The dentist began with a rather large pellet, and proceeded much as though he had been using *non-cohesive* gold. That is, he was mainly depending on wedging the pieces across from one groove to the other, using one instrument for condensing under the force of the mallet wielded by myself, and another to prevent the gold from rocking or moving. This was kept up till the whole cavity was filled flush, when of course it *appeared* solid. Then the work progressed rapidly, till the whole contour was completed, at the end of two hours' work. *In finishing this filling with a file, the dentist succeeded in straining it from its anchorage so that it could be slightly rocked.* He looked at me silently, and I refrained from speaking. He tipped it out, and, strange to say, proceeded to refill the cavity without change of plan. This time he succeeded in

making the contour, and also in polishing it so that it *looked* really handsome. Moreover, it lasted as long as the lady lived, though I should record that *she died two weeks later*.

The essential features of a gold contour, therefore, are extreme solidity, extreme cohesion, and extreme immobility throughout and at every stage of the operation.

—R. Ottolengui, in *Cosmos*.

A PRACTICAL CHEOPLASTIC PLATE.

No arguments are needed to convince you of the superiority of metal over rubber and celluloid as a base for artificial plate, and it is equally an established fact that tin has a beneficial influence on mucous membrane as well as on dentine.

That there has been some reason why each successive alloy of tin with methods of working has not been practiced in any considerable portion of cases, has crowded such bases out of the position that they should occupy.

It is my purpose to present a method, or rather a combination of methods (for which I claim no originality), by which a lower plate, either partial or full, can be constructed in about the same time as that required for rubber, and overcome some of the former objection to such cheoplastic plate and still retain the advantages of metal.

Such a plate must be made so as to accommodate gum teeth, as well as plain, without adding any extra risk of breaking. In the ordinary methods the full lower cases have been too heavy and the gums cracked, either during construction or in after years by the softness of the metal allowing them to move slightly; this we overcome by using rubber attachment. Then, in lower partials, the patient was sure to bend and break the plate unless it was made thick and bungling; this we overcame by a wire spring of Dr. W. H. Dorrance's invention.

Explanation.—Proceed as usual with impression; model may be poured of plaster, but plaster with asbestos or whiting is safe. To this model fit accurately a piece of pianowire, No. 14, 16 standard gauge along the arch, so as to leave the arch about opposite the first molar; after fitting this wire to the arch, bend each end inward at right angles with body of wire, then about one-quarter inch from first bend make a second by bending wires upward, forming an obtuse angle. This is done so that the wire will be held firmly in the plaster of the upper half of the flask; this done, take a file and make a notch on each side of wire in the first bend of each end; this is done so that the wire will break in the proper place and easily,

when wanted; sandpaper the wire, to remove all dirt from surface, and dip first into muriate of zinc, then into melted tin; this is done so that the metals used for plate will flow along and become attached to the wire; the wire prepared, cover the model to just the extent that you wish the plate to cover the ridge when done. It is now necessary to decide whether to use a solid plate of metal or a rubber attachment. In nearly all cases if full lower, and if partials with much absorption, I use the latter, and have selected such a partial for description.

Warm the tinned wire and press into place, and cover the scar with a fresh piece of wax, which is now ready to flask. For this I find the Watt's flask most convenient, although the Weston is good and the one used in this case. In flasking, care must be used to have sufficient plaster under the ends of the wire, to hold them firm and without breaking in the upper part of flask. With sharp knife make a groove around the edge of plate in upper part of flask just where edge of rubber will finish to, this is done so as to furnish a more secure attachment for rubber and a larger surface of metal next to the mouth.

For a more secure attachment, especially in full cases, I make several pits about one-half inch deep in upper part of flask over the ridge; these can be made with an old excavator sharpened like a screw-driver. Now cut a gate from each angle; this I make ample, as it can do no harm and proves a great convenience.

The two halves of flask are now dried separately in a temperature that will not calcine the plaster; the oven of ordinary heating stove (as Stewart, Mogie, etc.) is a convenient place. When a mirror held over a warm flask will not gather the slightest moisture they will do to pour, and not till then.

When dry, the surface of the model should be rubbed with a piece of base plate wax to smoothen the surface and also to act as a flux for metal. The mold should be warm and the metal but very little above melting point when pouring, and should be cooled slowly to obtain a smooth casting. After separating, the wire should be broken off with the finger. It will break just below the surface if the notches have been made as described. The small hole at each place where wire is broken is to be filled with some metal as that of which the plate is made, with a soldering copper (not tinned). To do this, moisten the surface of plate about the hole with HCl , or chloride of zinc, and place a piece of the metal over it and melt into place with warm copper. Now, with a file, smooth off plate in a rough form and fit to mouth; after fitting, take the antagonism, using plate just made as base plate, then proceed as usual with rubber

attachment. Should you wish to make a solid plate after fitting the wire, you would proceed as usual with cheoplastic plates, excepting that after the case is on the articulator, the wire is to be put in place before the teeth are ground.

Any of the alloys of tin in use may be used for construction of this plate. While I have tried them all, I like 15 parts silver to 85 of tin, although the addition of 3 per cent. of bismuth makes a good plate.

—C. W. Staples, D.D.S., in *Ohio Journal of Dental Science*.

THE DENTIST'S LIGHT.

Two years ago I built an office, and the question of light was a serious matter with me in this way: that while, for more than a quarter of a century before, I had worked with a northern light, I was now obliged by the circumstances of the locality, which I could not control, to adopt a southern light; and the question in my mind was whether I was going to be better or worse off on that account. I consulted with some of my confrères, and I found some who had used a south light all their professional days would not have any other, and those who had used a north light, and then had come to use a south light, preferred the southern light, saying simply that they thought it was more healthy to have the sun in your room. Now, before that period, I had worked with a southern light, and had been disturbed by having the light shut off frequently by passing clouds. In speaking of my own experience with the north light, with those who had continued the use of the south, I was told that it was a trifling matter that was hardly to be considered in connection with the grand advantages of a south light. So I was obliged to adopt it, and accepted the situation without further inquiry, and I have not had the disturbance with this light that I feared I might have. But this is what I wish to know: How much light do I want, or need? Do I want a large window letting in all that can come from the sky; or, do I want a little light thrown on my work, as I have seen in a gentlemen's office, and so managed as to bring the light from the sky and throw it horizontally to the operating chair? I found that some who were boasting very much over their good light had windows cut up with heavy bars, that, it seemed to me, would cast shadows; or, having a good-sized window with only one or two panes of glass in that window. So I have never come to any definite conclusion or satisfaction in my mind as to what is the better light, the kind, its position and its quality.

I was particularly interested this summer when in Berlin. I

was in the office of one of our most noted practitioners, and he had a small window—that is, he had a portion of the window filled up with some panes of stained glass; then the paper on the walls and the adornments of his room were very dark, with heavy hangings, and the room was filled with bric-a-brac and dark objects; yet it was his operating room. When he dismissed the patient and gave up the rest of the day to me, I said to him:

“How about your light here? Do you have all the light you want?”

“Oh, yes,” he said; “an abundance. You see I have this light concentrated. I don’t have a great flood of light in my room, but just a small amount, and it comes right down exactly where I want it.”

Now, in another office the dentist informed me he could not bear such a thing as that, because the dark objects absorbed the light. He wanted light paper, light walls, everything light about him. So, though I have been forty years practicing dentistry, I don’t know much about this branch of the subject.

—Dr. Kingsley, in *International*.

PROTRUSION OF UPPER JAW.—In December, 1891, a young lady called to have her upper teeth extracted preparatory to having an artificial set inserted. She had an unusual protrusion of the upper jaw. When the mouth was closed, the teeth extended over the lower lip, and, indeed, it was only with considerable difficulty the patient could close the lips over the teeth.

After extracting the teeth we proceeded to cut the gums loose from the alveolus, all the way round from the second bicuspid on each side, cutting well up toward the ends of the sockets of the teeth. We then cut away, not only the outer but a considerable portion of the inner part of the alveoli. This allowed the loose flaps of gum to fall back about half an inch from its original position.

In six months we took an impression and inserted the teeth. The gums were as smooth and regular as though the alveoli had never been interfered with, while the deformity had disappeared so completely that no one could have guessed that a deformity had ever existed.

A. C. Daniels, Bedford, Pa.

A man calls his girl’s teeth “pearls” before he marries her, and after he has paid four or five dentist’s bills, he begins to regard them as something even more costly.

A NEW REGULATING DEVICE.

The following contribution to the list of devices for correcting one of the most frequently occurring forms of dental irregularity may be found useful. I have obtained very satisfactory results with it in the two cases where I have used it. The object to be accomplished in both of these was to move the incisors outward for the purpose, in the first instance, of increasing the size of the upper arch, and in the second instance, where the upper central incisors closed inside of the lower incisors, of correcting this defect.

The appliance is constructed as follows: A broad clasp of platinized gold is thrown around each of the sixth-year molars, the opening of the clasp being at the distal buccal angle of the tooth or on its distal proximal surface. These clasps are yoked together by a narrow silver plate simply to give solidity to the fixture and cause the two molars to act as a single abutment. On the buccal aspects of each molar clasp is soldered a section of gold tubing about three-eighth of an inch in length; the tubing used is the hinge-tubing of watch-case makers. The distal end of each tube is closed with a drop of gold solder. When the appliance is thus far completed, it is placed on the model and a section of piano wire bent to conform to the arch, impinging on the buccal aspect of the teeth about the middle of their crowns. The length of the piano-wire spring and the relation of its curvature to the labial aspects of the incisors is made such that its form will be that which the arch of the anterior teeth are to take and permanently retain, or, in other words, the wire is to be bent to the form of the arch which it is desired the teeth shall form when the correction is completed.

The wire will now have proximately a U-shape. The free extremities of the wire are to be cut to the proper length, so that when introduced into the tube-sockets with the fixture in position in the mouth, the arch of the U will stand nearly one-quarter of an inch anterior to the incisors and about the middle of their crowns. After the fixture is adjusted in the mouth, the teeth to be moved outward are to be firmly ligated to the piano wire by means of fine gilling-twine or silk. The especial advantages of this fixture are that it is cleanly and easily removable for readjustment or cleansing. The traction force is exerted directly outward in the median line, or, if desired, its direction may be modified by tying the ligature to the wire on either side of the tooth to be moved. The amount of force exerted is absolutely under control, and may be modified at any time by changing the length of the legs of the U-

shaped wire, or by using a wire of smaller diameter, or by the method of tying the ligature to the wire.

Not the least important advantage of the appliance as described is, that by having proper regard for the curve of the spring and length of its sides in relation to the curvature of the corrected arch, the fixture becomes practically automatic from the fact that the limit of resilience of the spring is reached at the moment the irregularity is corrected. Consequently, when the work of correction is done, the spring ceases to act. I have found much satisfaction in the use of electro-gilded piano wire, not only in the cases described, but wherever I have occasion to use piano wire in regulating teeth. The deposit of gold is amply sufficient to protect the wire from oxidation during a reasonable time while in use in the mouth, and the unsightly staining of the teeth by iron salts is thus avoided. The gold surface is also an advantage when it becomes necessary to unite lugs, loops, or other fixtures to it by means of solder.

—Dr. Edward C. Kirk, in *Cosmos*.

OFFENSIVE CONDITIONS OF THE TEETH.

Perhaps the most simple and least excusable of these is a vitiated mass of soft pasty matter, consisting of food material, thickened mucus, and waste from the adjacent tissues. This is usually found in greatest amount at and near the necks of the teeth, and beneath the margins of the gums, and between the teeth; this material ordinarily undergoes putrefactive change quite rapidly. The character of this change, and the form which the material may assume, will be modified by the state of fluids of the mouth, by the character of the breath, and somewhat, doubtless, by the condition of the alimentary canal. The change in this material will also be influenced by "mouth breathing;" this evil habit tends to produce thickening of the mucus of the mouth by evaporation of its water; variation in thermal changes is also by this means induced; foreign matter in the form of dust organisms, and whatever may be in the air, will be taken into the mouth by the "mouth breather." All this tends to hasten change of matter that may be lodged in the mouth; this variety of accumulation may be found on all the teeth in the mouth, perhaps in larger amount, however, on the buccal surfaces of the molars, and the anterior surfaces of the inferior incisors, and oftentimes on the labial of the superior incisors and cuspids; on the latter it is usually found in its most offensive condition; on the entire surface of any or all of the teeth this accumulation will often be found, and especially is this true of those

not used in mastication. It will usually be found in its most offensive state where fresh saliva comes most in contact with it, and so, nowhere is it more offensive than on the labial surfaces of the upper anterior teeth. The influence of this material is injurious in several aspects or directions; it usually possesses an offensive odor, caused by its putrefaction, and this is often given to the breath; and in "mouth breathers" this offensive condition will be carried to the lungs, as well as thrown out by the breath. This offensive matter also necessarily mixes with the food, and is taken into the alimentary track; this accumulation is usually irritating to the margin of the gums, and to the mucous membrane.

In all cases where it exists in any considerable quantity at and beneath the margin of the gum, there will be an inflamed condition of the tissue, and, in many cases, persistent suppuration of the margin of the gums is the result, and sometimes disease thus induced extends into the sockets of the teeth, causing disease.

The persistent presence of this material, especially on the buccal surface of the upper molars, and on the labial surface of the upper incisors, is a fruitful source of decay of these teeth, and especially so where there is defective enamel, or where it passes beneath the margins of the gum and beyond the edge of the enamel; evidence of this destructive influence is shown by the fact that very rarely does decay occur on this surface of these teeth when they have been kept free from this deposit.

This accumulation is almost universally found on the teeth of those who do not masticate as nature designed. Those who live on pulaceous food, requiring little friction in the act of mastication, usually have this material in large quantities. Different kinds of food vary in their liability to undergo change; some, under a given influence, will decompose rapidly, others, under the same influence, much less rapidly.

In giving directions for the hygienic management of the mouth, the things here referred to must be taken into consideration, *viz.*: the habit of mouth breathing has its deleterious effects on the mouth, teeth and throat. The patient should be made to understand the influence of a vitiated breath, and to understand that there is always mischief in connection with it, that ought to be remedied. Always when an offensive breath is present, it should be of earnest solicitude on the part of the patient. The condition of the alimentary canal often has much to do in vitiating the breath, and inducing an abnormal state or condition of affairs, but a course of life should be adopted by the patient such as will change conditions for the better.

"The mouth breather" should contract the habit of keeping

the mouth closed, and using the legitimate organ for respiration; the best possible condition of the general system should be maintained by a full observance of the laws of health and hygiene. To this end, good and nutritious food should be used; mastication and insalivation should be thoroughly accomplished; all the eliminating organs of the body should be maintained in a most perfect condition; each one should be so managed and treated that its peculiar work will be well accomplished. To these conditions, very little, if any, attention is given by the average practitioner of dentistry. The remark was not long since made, in the hearing of the writer, by a prominent dentist, that "he did not regard it as his duty, nor the business of a dentist, to cleanse the teeth from that which the patient himself could remove." It is as important that the teeth and mouth receive attention in regard to purity and cleanliness, as that decayed teeth be filled, or that diseased gums or alveolar abscess be treated.

Many excuses are made for neglect, such as: "I have been sick, or not very well, and so my teeth have been neglected;" "I have been away from home and had not the opportunity to attend to my teeth;" "I have not the appliances or preparations for keeping my teeth in good condition;" "I did not know that there was anything objectionable or pernicious about or on my teeth, or even in the mouth;" "I have been so very busy that I had not time to give attention to this." How much influence any or all of these excuses ought to have, or will have with any one who appreciates the value or importance of a healthy mouth and good teeth, I leave you to decide.

Let us, then, as we go forth in the exercise of our professional duties, use most efficiently the knowledge and resources we have. In time of peace prepare for war; in time of health build barriers against the incursion of disease, and not wait till it is on us, and then put forth efforts in meeting it, which are in so many instances fruitless, and at best serve but a temporary purpose.

—*Editor Dental Register.*

It is not the persons of most robust development who live the longest, but those who take the best care of themselves, of what they eat and how they live. And it is so with the teeth. In spite of defects of development, if the best of care is taken of what we have, we may carry our teeth to the grave, and live to a good old age. Establish good habits in these respects in the earliest years of a child's life, and the work is done. *R. R. Freeman.*

CONSTRUCTING CROWN- AND BRIDGE-WORK.*

BY DR. G. W. MELOTTE, ITHACA, N. Y.

Gold in Holy Writ stands for truth, and of all metals that man has been able to manipulate, I think it stands at the head. Platinum ranks by the side of gold, and in the construction of crown- and bridge-work we have to deal with gold and platinum.

It is curious to note the effect that can be produced by placing a piece of pure gold on a piece of platinum and passing it through the rolls together, first heating them over a Bunsen burner. You find, if the surfaces are clean, there will be perfect welding, as perfect as you can weld two pieces of cohesive gold foil. This form of gold and platinum is used in backing up teeth, using pure gold to bring the tooth that is too white up to a richness in color that will serve the purpose. Another curious fact is, that pure gold under the blow-pipe, 18 carat—and I do not know but any carat gold—can be readily welded. The surface must be cleansed by applying borax rubbed on a slate or piece of ground glass. I do not find it necessary in welding gold bands to put them into sulphuric acid, the borax answers every purpose of purifying the surface. To weld a gold band let the edges lap, bringing the edges into perfect co-aptation, apply the creamy borax to the parts to be united, then with a flowing or soft flame of the blow-pipe bring the gold to a perfect redness when a concentration of the flame will cause a slight fusion of the surfaces and thereby welding.

I learned this method of welding gold from Dr. Bing, of Paris, a year ago last summer. I saw Dr. Bing do the work nicely, and I thought it would be a practical thing with me. Finding I could not do it very well at first, I laid it aside until Dr. Templeton visited me last August, and I showed him this method of welding coined gold. He seemed to be very much pleased with it, and was able to do it himself, and that gave me great encouragement, and so from that time to the present I have welded all my bands. I use no solder except soldering on the caps in forming cusps. I do not like to use very much gold in the anterior portion of the mouth. By heating the gold after a band is formed and doubling it over, you can approximate the shape of a cuspid, and it is easy to weld. I have been able in one case to join a piece of gold on by making the upper edges free, then by careful manipulation of the blow-pipe I was able to add one piece after another till I made a cuspid with a thick end or point over the surface. I think this method of unit-

*A talk given before the Ohio State Dental Society, Columbus.

ing bands much better than to use solder. Soldering produces weakness of the band when it unites at a slight heat. If No. 18 carat gold, it lowers the character of the gold in the main at that point. If the band should require stretching, it may be done with a hammer at the point where the surfaces have been united in the weld without reducing the general thickness of the band.

We will now construct the anchorages for a bridge. The case is one involving the loss of the first and second bicuspid, together with the first molar, right side, lower jaw, anteriorly we have a sound cuspid tooth and a firm lateral incisor root; posteriorly the molar is sound, with no antagonizing tooth in the upper jaw. We will prepare the lateral root for a Richmond crown, the construction of which I presume you are all familiar. The cuspid may be banded by excising the crown. A tooth cut off and nerve pulp destroyed, banded and capped in the style of a Richmond crown with porcelain base, gives stronger anchorage for a base than that of a banded cuspid tooth, or, in fact, any tooth banded. It is true, we have the prejudice of patients to contend with, and possibly our own timidity in cutting off teeth. I am not afraid to cut off sound teeth, and think it would promise greater strength and permanency to do so.

But in this case the sound cuspid has been banded, the lateral root furnished with a Richmond crown, completing the two anterior abutments. We will now prepare the second molar for the posterior anchorage. In this case there is no occluding tooth in the upper jaw. We all know it is important that the bulbous portion of a tooth should be removed and straightened, so that the band when fitted may pass down under the free margin of the gum, and you can crowd it down; you had better have it go beyond the point your judgment would seem to indicate rather than to have it too short. I think it is one of the sources of protecting teeth from decay. We will say, we have taken off the bulbous portion of the tooth. To obtund sensibility, it is well to add alcohol to water; it will also sharpen the corundum, so that it will cut more readily than otherwise, and, of course, you all know a sharp knife is better than a dull one.

Now, we have prepared the tooth with the exception of removing the cusps. In this case I said there was no occluding tooth. It stood alone, without any antagonism, and we are going to benefit the tooth by giving it something to do. In making my bands, I wrap a piece of gold around the tooth, lap it, hold it with the fingers, and mark it. I think most crown workers who do a great deal of bridge-work fall into the habit of doing it in this way with-

out measurements. It is well enough for a man to measure when he first commences.

Now, we have the size, and this (illustrating) will represent the gold band. I have got it lapped at the point you see. If you use solder instead of welding in the commencement, it will perhaps be well enough to take a little whiting mixed in alcohol and coat the surface, leaving a point just at the top, joining with soldering there. This leaves the bottom of the band open. If you drive it on the tooth there will be less resistance, and you can fit a band to a tooth easier than if you had joined it from the top to the bottom or the whole length. You fill in the end with plaster of Paris mixed with sulphate of potash or salt and water, so that it will set quickly and fit the band in there, tamp it down so the air will bubble out. As soon as it sets carefully remove the band. The portion of the band not occupied by plaster of Paris is filled with fusible metal melting at 150° F. You cut it off with excising forceps and drop it into the band, then with a puff of the blow-pipe melt it. The plaster is now inverted. You have placed your pieces of fusible metal into the band, and, with a puff of the blow-pipe, have melted them. Do not overheat, but barely melt the pieces of metal, and fill it a little more than full. As soon as it is congealed and hard, remove the plaster. You can trim gold down within a line or line and a half above the cusps, and then using 22 carat gold there will be no trouble with the hammer and burnishers to burnish it over into the cusps. You can take an impression in plaster and make a die and counter die with fusible metal melting at 212° .

After you burnish gold down into this fusible metal or cusps you make a die, swage out a piece, then with a small ladle placed in boiling water the metal will melt below the temperature of the water. It is better to do it in that way than to resort to the blow-pipe. I find in using the blow-pipe, that there is great danger of overheating, and the pieces of metal unite with gold and spoil it. Let me say here, by way of caution, if you try this method of fusible metal, and are not careful to remove every particle of it before you put your pieces under the blow-pipe again, you will wish you had never seen Melotte or anybody else. There would be a union of the fusible metal with the gold, destroying the integrity of the gold. If you are careful in the operation to remove the diffusible metal perfectly, you will have no trouble in soldering on the little cap of gold into the gold band. Now, you have made the crown with the exception of the band, contouring and fitting it to the tooth in the mouth, and you have taken an impression, you have done the whole work of making the crown, getting a crown that will go on and answer the purpose of the posterior abutments nicely.

A Member : Do you band before you put the fusible metal in ?

Dr. Melotte : I do not. It would be well to do it, but I have no time, as a rule, to do that. Perhaps it would be well for a man to do it when he first commences to do this kind of work.

A Member : Will you please tell us how you weld it ?

Dr. Melotte : "The Lord breathed into man the breath of life." I use some of it in connection with the blow-pipe, and by coating the surface with borax, you are enabled to bring it up to the heat of fusion. The molecules of the upper layer to the lower layer will come in contact with heat and readily unite. If you are not careful, you will spoil your band ; so it is well enough to experiment with pieces of gold in soldering before adapting it in actual practice. In doing this work, it is well to have a blacksmith's heat, which is a general heat, heating your band up thoroughly before you concentrate the heat, otherwise it is better, perhaps, to point the flame a bit, heating it up until the material is ready to melt ; then you get your welding. You may spoil a number of bands of gold before you are able to do the actual work, but you will be surprised how well you can do it if you learn to emit a nice flame with the blow-pipe.

A Member : Why do you use shellac on porcelain ?

Dr. Melotte : Because in burning it carbonates and gives you a layer of charcoal next to the porcelain. It protects the porcelain more perfectly than it is protected with the ordinary investment of plaster of Paris.

Dr. Harroun : I am in the habit of coating the surface of a tooth, to prevent the plaster of Paris from melting. It forms a coating there, so to speak, prevents the plaster from shrinking down, and forms a roughness on the surface.

Dr. Melotte : That point was suggested to me by a dentist of Utica, in combining the porcelain and gold. He told me that was the course he pursued. I find it a nice thing to do. I am conscious of the fact that with porcelains you cannot be too careful to keep them from contact. Considerable expansion and contraction take place when the molecules are under the excitement of returning to their primitive condition. Of course, there is great danger of breaking. Dr. Starr suggested that pieces of mica be put between the porcelains we use. In olden times it was suggested, that a piece of tissue paper or writing paper put in between would prevent breaking. I think mica is a very good thing, indeed, for this purpose. We should see that the porcelains are not in contact when they are invested.

I have reached a point now where I have constructed my abut-

ments. I call your attention to one of the most important points connected with the work, and yet one that is simple—taking the impression. If this tooth (illustrating) leans toward the anterior teeth, or if there is a wedge-shape or straight space, you may have trouble from breaking of the plaster, making your impression imperfect. To obviate that, I take a piece of modeling compound and press it with my fingers between the teeth. I remove it, put it into cold water, then with a knife I trim on the buccal and lingual surfaces, leaving them a little narrower at the top. Before placing it back, I warm the surface, and direct the patient to bite down on it, leaving an imprint of the occluding teeth. Be careful to see that the patient bites correctly. Now remove the pieces again and trim, so that the modeling compound will come in contact with the anterior and posterior portions of the band, but not to cover any more than you can help. You have trimmed it and replaced it. It is in position. The patient has bitten down on it. You may let them try it again, if you are certain they will bite in the same place. The imprints of the cusps are there. Now you take an impression in plaster, the modeling compound being in position. You take your plaster, and if the compound remains in the mouth and does not give away with the plaster, remove it and put it in its place. The model drawn on the board is but a rough sketch. It represents the two centrals and a lateral together with a cuspid with its band on. Now, in taking an impression, I find that the imprint of this tooth is in the impression. There are few men who practice making impressions with bands on preparatory to making a restoration or bridge; they take impressions in modeling compound. They may be experts in that particular line, and they may succeed in a small piece of bridge-work, and may with their method save time, but I would not attempt to do it. A gentleman said to me a short time ago, "It takes so long to remove a plaster impression from the model," and that is one of the reasons why he does not use it. Then, again, sometimes patients object to certain things you want to do. My patients do not object, because I do just as I have a mind to. As a rule, I do, or else I do not do the work.

I have taken the plaster impression, and am about to pour into it plaster of Paris to make my model on which my bridges are constructed. I take two pins and place them into the impression of two of these teeth a little ways (illustrating) apart. The heads are standing up, and the impression is before you, and you are looking down into the imprints of the teeth. I take the pins, place them in the cutting edge of the teeth in this case, then I take some little bits of fusible metal and cut it off with excising forceps and

place them into the imprint of the teeth, and with a puff of the blow-pipe fuse the metal, and jar it down same as with plaster, and then you have got the tips of the teeth like that which you see represented on the board. Dr. Templeton has three or four combined tips that I removed from a case while he was with me. He will show these tips to you at my clinic this afternoon. I will take an impression of some one's mouth and show you the method of making these tips. You cut off the ends of the pins and leave the dowels around them, leaving the pins one-half or one-quarter of an inch in length, then fill up the model with investment material, plaster of Paris and marble dust. One-third marble dust and two-thirds plaster of Paris is about my formula. Your plaster is hard, you cut away and down on to these teeth, cutting away the plaster impression you cut to the tips. Being metal you are in no danger of marring them. I have got to a place now where I find my modeling compound is in the same position with the cusps upward (this being a lower case) that it was when the patient left the imprint. You readily see that. When I have taken an impression of the occluding teeth (and I take it with plaster), I pour in fusible metal quickly. If I do not get a perfect occlusion, I can pour it several times; I get it quicker than it takes the plaster to set.

The advantage in standing before you and speaking to you in this way is, that I am enabled to command the attention of every one of you at the same time, and am able to state points in the construction of this work which would be very difficult for you to see at a clinic, and it would be likewise difficult for me to perform in the time allotted for a single clinic. I could not do it. There is not a bridge worker in existence (if there is one I would like to see him) who has not had more or less failures, and if he has been at work four or five years in this line, and has not had quite a good many failures, then he must be a better man than I am, and such a man is in danger of toppling over. Our successes flatter us; our failures halt us, and make us consider the ground that we have been over, and make us a little more careful in the future.

A Member: Will you tell us how you make a dummy?

Dr. Melotte: I will state first what happened in my office. My assistant was working for an elderly gentleman, and he got to the point of adding the dummy, and he turned to me and said, "What shall I do with the dummy?" The man looked up at him with daggers in his eyes, but the young man gave him to understand that he did not mean him.

I do not know how they came to be called dummies, unless they were considered dummies who worked at them first.

I will make the first dummy, and I shall prefer to take an ordinary cuspid tooth, and in grinding it I may find it is too long from the pins up to the cutting edge. Dr. Richmond showed me this method of grinding a cuspid tooth to keep the proportions perfect—that is, to grind from the lingual toward the labial surface, as perhaps you are able to see this tooth (illustrating). You take a tooth that is blunt on the end, the advantage is that you make it upon the porcelain, so that when you add gold you have a better looking tooth than you would otherwise have; then, besides, you first put a piece of backing on, and this backing and the tooth are ground on the surface, the backing being beveled with the porcelain. You take a piece of thick gold, and where you want great strength on the cutting edge and desire to prevent the teeth from breaking, I should use gold that has about five per cent. of platinum, using No. 23 or 24 and let it extend about a line above the cutting edge, wax it on when it will be ready for investment. You take a die and swage out a bicuspid, take one of the bicuspid dies, swage out a piece of gold, place it on, bevel toward the outer cusp, so that it will fit on to the tooth in the manner in which I hold this (illustrating), wax it in place and invest it, varnishing it at first. Invest in plaster of Paris, marble dust and sand, then after the investment has set, dry it out, melt out your wax, add your gold carefully; you may put in tips of gold coin or filings, fill it up with filings and solder, and in that way you have got your dummy made for your first bicuspid. Proceed with the next and with the molar in a similar manner, and you have your dummies, which, of course, you have tried on and arranged with a view to the occluding teeth. Of course, this work needs care and time, and I cannot find language to describe to you definitely just how to proceed. There is an important point I want to make, and that is that each one of the dummies should be ground, the porcelain and the gold, so that they will touch the ridge, and especially in those cases where there are any bridges which fail to have touched, because the tissues will kindly form around the points of contact, and you need not be much afraid of inflammation, and if you get a little hypertrophy you can allay it as well with a saturated solution of salicylic acid as anything, and after a little the gum will kindly form and it comes up around rather than shrinks away from the dummy.

—Ohio Journal.

When a man has an engagement at a dentist's to have a tooth pulled, we notice that he is always polite enough to give his place to another man.

THE DISASTER OF LOSING A TOOTH.

The disaster of the loss of a tooth is not simply in proportion to the amount of grinding surface which it removes, unless this loss is at the end of the arch, as already instanced by loss of the wisdom tooth, *but depends on the total derangement which will be caused to the remaining teeth.*

For instance, loss of first molars removes a large share of grinding surface and causes much immediate disturbance of the function of mastication ; but all that is of slight importance compared with the effects produced on the other teeth, such as the robbing of their support and loss of function due to their tipping out of relation.

In many mouths the arrangement of the teeth is very imperfect ; an extraction may ruin an articulation on the only side capable of perfect mastication.

In another mouth the relation of surfaces may be defective forward of the second molars, and mastication is principally performed by the second and third. It is plain that the third molars are then of unusual importance ; but don't imagine that the first may as well be lost as not, since it is not employed in mastication ; for its support is needed to preserve the relation of the second and third, and its loss would be disastrous by allowing those teeth to tip out of relation. Better to save the roots, even of the first molar, for that will arrest the tipping of the others earlier than otherwise, and the root will protect the gums.

In some the inner cusps of the bicuspid's are short, and these teeth seem capable of little work, yet they support other teeth and preserve the contour of the arches in relation to the typical plan of the features ; whereas, their loss might cause the hooking inward of the lower incisors, or ugly spaces between upper incisors.

I am forced to confess the belief that an enormous proportion of all the derangements of the articulation of teeth have been caused by bad dentistry—bad because opposed to the natural laws and forces governing the arrangement of the teeth.

There is a tendency among dentists to classify cases and to formularize the principles of practice to a series of set rules, and when a case presents, adapt the classification and rule they are accustomed to apply almost mechanically, without subjecting themselves to the trouble of a little special reasoning to exactly adapt the treatment to the case. The patient suffers from this plan in proportion as his case happens to differ in detail from the classified type.

Authors must classify cases and treat of them in groups; the principles and laws of treatment may thus be communicated to all; but in practice the dentist deals with individuals, and not with groups; therefore he must not only consider the general laws in their general application, but he must also study and determine the fine variations of his case, and adapt the treatment accordingly, and he will be successful in proportion to the skill and judgment exercised in such adaptations.

—J. B. Davenport, Paris, France.

HOLLOW CAST GOLD FILLINGS.

I have seen a number of interesting articles from time to time in the dental journals on the subject of "Cast Fillings," but the following method will be found unique and practical. Prepare the cavity to be filled, in the usual manner, with the exception that you observe the same rule that applies to preparing a plaster model for a metal die, *viz.*: avoid all undercuts. Roll a piece of platinum as thin as the mill will make it, cut off a piece, say one-fourth or three-eighths inch square, and, after having thoroughly annealed it, lay it over the cavity, and, holding it firmly in position with the left hand, force a ball burnisher (or what is better, a ball of cotton formed on a bur in the engine) through the center of the platinum. The center will be torn, but this will enable you to adapt it to the walls of the cavity, however irregular the shape of the latter may be. Having satisfied yourself that the metal is snug against the margin on every side, take a pellet of very stiff wax (and taking the precaution to moisten the bottom of the cavity, should it be dry), force the wax into the tooth as you would a gutta-percha filling. Insert a sharp-pointed instrument in the wax and carefully lift the whole thing out. You will observe the wax prevents the matrix from changing shape, and at the same time gives you an impression of the bottom of the cavity not covered by the platinum. You are now ready to invest in sand and plaster, or, what is better, Teague's investing compound.

Having melted the wax out with boiling water, mix a little of the investment, and, carrying it on a small point to the bottom of the mold, build it in the form of a cone. Lay in a sufficient quantity of scrap gold, cut fine, and fuse till level full. With a little trimming the filling is ready to be cemented in place, and finished off. Before inserting, it is better to make slight undercuts. If the operation is neatly performed, the cement line cannot be detected.

S. F. Gilmore, Princeton, Ind.

ALUMINUM SOLDERING.

The following methods of soldering aluminum are recommended by the Nauhausen Company. For sheet aluminum an iron-tin solder may be used, with a flux composed of resin, neutral chloride of zinc and grease. The metal should not be cleaned or scraped unless it is absolutely necessary to do so, in which case alcohol or essence of turpentine should be used for the purpose. For five per cent. aluminum bronze tin solder may be employed; but this is not possible with the ten per cent. alloy, in which case the company recommends a preliminary copper plating. If it is difficult to dip the ends to be plated directly into the solution, pieces of blotting paper soaked in a solution of CuSO_4 may be laid on them, and a current passed. The above flux may be used.

Another solder which is recommended is one consisting of copper 56 parts, zinc 46 parts, and tin 24 parts, applied with borax. Some tests made at Neuhausen showed that with these solders plates of aluminum soldered together, edge to edge, required a tractive effort of from $16\frac{1}{2}$ to 18 tons per square inch to pull them asunder; if the edges overlapped, $22\frac{1}{4}$ tons per square inch were required. Pieces of cast aluminum bronze, if placed in sand molds, can be joined autogenously by running in some of the molten metal. If this operation is properly carried out, the joint is undistinguishable from the rest of the casting. Thin cylinders of aluminum are made in this way by bending the sheets round end to end and soldering with molten aluminum.

—*Scientific American*.

PLASTER OF PARIS FORMULA.—1. To make plaster set hard, mix best plaster of Paris with about ten per cent. (more or less, according to effect ascertained by preliminary experiment) of very finely powdered marble (calcium carbonate). Or add to it about six per cent. of powdered alum, or about the same amount of ammonium chloride, before mixing with water.

2. To make plaster set slower, mix it with two to four per cent. of powdered althea root before adding the water. This not only retards the hardening of the plaster, but also enables it to be cut, filed, sawed and turned.

An addition of eight per cent. of althea powder retards the complete setting of the plaster for about one hour, so that the mass can be used for any purpose where it is to remain plastic at least during a portion of that time.

—*Amer. Drug*.

CARIES AND THE RACE.

Professor L. Thomas, of Paris, in a series of articles in *L'Odon-tologie*, discusses the "Importance of the Geographical Distribution of Dental Caries in Ethnography." In the introduction the doctor says: "It has been observed long ago that the inhabitants of some regions have teeth which are much more beautiful and able to resist decay than those of other parts of the same country. Some think that the predisposition to dental caries is a characteristic of the race, perpetuated from century to century, in spite of vicissitudes and modifications of the *milieu* and hygiene. Others claim that this predisposition is a secondary phenomenon resulting from blood mixture which has altered the purity of the primitive type, and the change of habits marking the passage from the savage to civilized life. To the latter the caries appear to be not merely a defect of the race, but a disease of civilization. They assume that the savage has solid teeth which he loses only in extreme old age, while civilized man has frail teeth which may fall out prematurely if he does not take care of them."

In 1835, Oudet observed the existence of dental caries in the endemic state among the young men of some parts of Holland, but he does not seek to explain this peculiarity. Later, Boudin, using the military statistics, has shown the distribution in the French territory of those exempted from service for bad dentures.

Ten years later, M. Magitot reached more positive conclusions:

1. The dental alterations, especially caries, when affecting many of the same country, cannot be attributed to any general cause, such as environment, soil, alimentation, etc.; but,

2. *They are due to general heredity, in such a manner as to constitute a characteristic of the race.*

HOW TO TEACH.

Though the Wilmington Dental Manufacturing Co. can furnish prosthetic dentists with supplies that are excellent, there must be proper manipulative and artistic proficiency with dentists. Ill-appeared and roughly-finished artificial dentures are too numerous. They should be typical examples of art imitating nature. This apparent carelessness or incompetency is a disgrace, and it is partly because many teachers of prosthetic education pay too much atten-

tion to didactic and too little to demonstrative instruction. I am confident a change of method would bring improved results. Some of these incongruities are the result of so many entering the profession who have mistaken their calling. A student having mechanical ingenuity, with a good English education, should, after a thorough course of theoretical and demonstrative teaching, become a competent dentist. I had occasion, during the past college session as teacher, to require a student to do a special piece of work in the college laboratory, who had received instruction elsewhere. While watching him I was amazed. I said, "I should do this differently," and at once demonstrated my method. "Why," said he, "I never was shown how to do anything; I was simply told to do it; and I do it the best I can." This same student passed a creditable examination. Does not this illustrate the necessity of often *doing* for the student instead of telling *him* to do it? There must be demonstration as well as teaching. The lecture course should be thorough and up to the most advanced methods, and the essence of each subject imparted so as to be easily understood; and this should be enforced by practical demonstration. Some of our post-graduate schools are a boon to those who recognize their deficiencies, and hundreds are availing themselves of the opportunities afforded; their method of instruction is mainly demonstrative. The panacea for the cure of incompetency is in a change to a more thorough demonstrative course in our colleges. This will eventually reduce the number of careless and incompetent workers.

W. T. McLean, Cincinnati Dental College.

In a capital address on "Tooth Culture," delivered at the annual meeting of the Eastern Counties Branch of the British Dental Association, and printed in the *Lancet*, Sir James Crichton-Browne referred to a change which has taken place in bread, as one of the causes of the increase of dental caries. So far as England is concerned, this is essentially an age of white bread and fine flour, and it is an age, therefore, in which we are no longer partaking, to anything like the same amount that our ancestors did, of the bran or husky parts of wheat, and so are deprived to a large degree of a chemical element which they contain—namely, fluorine. The late Dr. George Wilson showed that fluorine is more widely distributed in nature than was before his time supposed, but still, as he pointed out, it is but sparingly present where it does occur, and the only

channels by which it can apparently find its way into the animal economy are through the siliceous stems of grasses and the outer husks of grain, in which it exists in comparative abundance. Analysis has proved that the enamel of the teeth contains more fluorine, in the form of fluoride of calcium, than any other part of the body, and fluorine might, indeed, be regarded as the characteristic chemical constituent of this structure, the hardest of all animal tissue, and containing 95.5 per cent. of salts, against 72 per cent. in the dentine. As this is so, it is clear that a supply of fluorine, while the development of the teeth is proceeding, is essential to the proper formation of the enamel, and that any deficiency in this respect must result in thin and inferior enamel. Sir James Crichton-Browne thinks it well worthy of consideration whether the reintroduction into our diet of a supply of fluorine in some suitable natural form—and what form, he asks, can be more suitable than that in which it exists in the pellicles of our grain stuffs?—might not do something to fortify the teeth of the next generation.

THE DENTISTS VICTORIOUS.

The State Dental Society, with President Dr. W. W. Walker, of New York City, presiding, met at Albany, N. Y., May 11th, in annual session. Dr. P. B. Winder, of Baltimore, startled the Society with the intelligence that the United States Census Bureau was pushing a bill in Congress which would set the profession of dentistry back half a century, and reduce it from a profession and practice to the level of mechanics, a trade, and a manufacture. He said that when the Porter inquisitors, two years ago, sought to ascertain how much it costs a dentist to put in a "bridge" or "crown a molar," the Baltimore dentists in a body refused to answer any of the questions, and hired a lawyer to defend them in the courts. They beat the Census Bureau because there was no penalty attached to a refusal to answer the impertinent questions directed at the profession. Now, by the Wilmot bill, it was proposed to make it punishable by a fine of \$1,000 to \$10,000, or a year's imprisonment, to refuse to answer the census queries. He said the dentists of the South were instructing their Representatives in Congress to vote against the Wilmot bill, and wanted the co-operation of the dentists of New York. The Society, many of whom had refused to answer Porter's questions, authorized President Walker to appoint a committee of three to draw up a resolution against the Wilmot bill, and directed that it be presented on the following morning.

Robert P. Porter, head of the Census Bureau, persisted in classing dentists as mere mechanics, and threatened prosecution against any who would not report their income accordingly. The following from Mr. Porter shows that we have gained our point :

WASHINGTON, D. C., June 27th, 1892.

The Superintendent of Census agrees with the representatives of the dental associations present at a meeting of the Senate Committee on the Census, to carry out the spirit and purpose of the amendment presented by the said associations at the meeting, and which appears in the paper marked "A," herewith attached. (Signed)

ROBERT P. PORTER,
Superintendent of Census.

Mr. Cailletet has recently made known to the *Société de Physique*, a process of soldering glass and porcelain with metals. Mechanists, physicists and chemists will appreciate the practical importance of this process, which permits of adapting any metallic object (cock, tube, conducting wire, etc.), to apparatus in such a way as to prevent any leakage, even under high pressure.

The process is very simple. The portion of the tube that is to be soldered is first covered with a thin layer of platinum. This deposit is obtained by covering the slightly heated glass by means of a brush, with very neutral chloride of platinum, mixed with essential oil of chamomile. The oil is slowly evaporated, and when the white and odoriferous vapors cease to be given off, the temperature is raised to a red heat. The platinum is then reduced and covers the glass tube with a bright layer of metal. On fixing the tube thus metallized, and placed in a bath of sulphate of copper, to the negative pole of a battery of suitable energy, there is deposited on the platinum a ring of copper, malleable and adhesive.

In this state the glass tube covered with copper can be treated like a genuine metallic tube, and be soldered by means of tin to iron, platinum, and all metals that can be united with tin solder.

The resistance and strength of soldering are very great. Mr. Cailletet has found that a tube of his apparatus for liquefying gases, the upper extremity of which has been closed by means of an ajutage thus soldered, resists pressure of more than 300 atmospheres. The tube, instead of being platinized, may be silverized by raising the glass covered with nitrate of silver up to a heat bordering on red. The silver thus reduced adheres perfectly to the glass, but numerous experiments have caused platinizing to be generally preferred to silverizing.

—*La Nature.*

Our Translations.

REFLEX NEURALGIAS OF DENTAL ORIGIN.

December 13th, 1890, M. B., 58 years, extremely nervous, came to me, complaining of pain in his left upper molars. The second and third were much decayed and sensitive; after a few dressings the sensitiveness disappeared, and I filled both with gutta-percha. Three days later my patient came back suffering from a dull pain, not very intense, but troublesome. He located his pain in the place where the lower molars had long since been extracted. The teeth are not sensitive either to pressure or to thermal impressions. From the proximate space, near the gum, I removed a small portion of gutta-percha, which might be the cause of the dull pain. But the day following he came suffering terribly, having passed a sleepless night, his pain still centering in the lower jaw where there were no teeth or any evidence of trouble. I did not find any above or below. The molars are still perfectly insensitive to touch or thermal changes. Nearly under the gum, on the side of the first bicuspid, I found deep caries which was the cause of the pain.

M. T., 48 years, of vigorous constitution, good health, came to me saying that, six months before, while suffering from two teeth, the second upper and the third lower molars on the same side, he went to his dentist who dressed them. Since that first visit he had gone daily to have his dressings renewed. When I saw M. T., I found in the upper tooth of which he had complained no trace of caries, or obturation, but the third inferior molar, which was not painful, had penetrating caries, though the pulp was still covered by a layer of softened dentine. I placed a dressing in this tooth, and the next day he came to tell me his pain in the upper tooth had disappeared.

—Dr. Terrier, in *Journal des Connaissances Médicales*.

NECROSIS IN CONSEQUENCE OF PERIOSTITIS OF THE WISDOM TOOTH.

Mrs. E. M., thirty years of age, experienced severe toothache in the right side of her lower jaw, which, however, passed away in eight days. After awhile the pains returned, and the cheek swelled.

There was strong, diffuse swelling on the whole of the right side of the lower jaw. The wisdom tooth was loose; suppuration reached to the first bicuspid, and behind the second bicuspid one could feel a raw piece of bone. I extracted the wisdom tooth.

In ten days the suppuration in the bicuspids had so much increased that I extracted them.

After a month the patient looks very emaciated. On the right side of the lower jaw is strongly diffused swelling and profuse suppuration, so that the patient is constantly obliged to spit. In the place of the first bicuspid protrudes a piece of necrotic bone from the gum, which has wounded the lip. The second molar has become tipped outward. An attempt was now made to extract the sequestrum; but it did not yet prove loose enough. Alcohol, 5 per cent., was prescribe for rinsing, and the patient watched daily. In six days more the cuspid loosened, and the sequestrum still pushed forward, when it was extracted.

The orthopedic treatment after the extraction of the sequestrum consisted in the regulating process to bring the articulation back to its normal position, for the left side of the lower jaw had been pushed out so that the patient, in her attempt to "bite," would strike the inner surface of the second upper bicuspid with her lower lateral. This operation succeeded very nicely.

—Dr. B. Sachs, in *Journal fuer Zahnheilkunde*.

AN INTERESTING QUACK.—The *Berliner Local-Anzeiger* publishes the following letter from South Africa: Durlian is presently in a state of great excitement. Every afternoon and evening Sequah arrives in a carriage on the market place to show publicly the wonderful effect of his medicine. After a short introduction he invites everybody to have their teeth pulled, and whosoever has any trouble with their teeth ascends on the left side, and then descends minus one or more teeth on the right. The tooth pulling costs nothing, and, indeed, is painless. When two meet on the street the first question is: "Have you had already a tooth pulled?" The pulling, however, together with the music that accompanies it, is only a means to attract, an introduction to the great operation that is to follow. The medicine which Sequah sells is excellent in its effect on the worst pulling. I must admit that, after all the humbug surrounding it, I have come across cases of cures which I would have never believed myself, if I had not seen them. It shows that we should not close our eyes to any good because of its source.

—*Zahntechnische Reform*.

ADVICE TO DENTISTS.—The dentist who values his time and counsel is the one who is appreciated.

He who works for nothing generally receives all that he deserves.

He who works for half price, when his patients are able to pay reasonable fees, is a spoil-trade.

The community never esteems a dentist higher than he esteems himself.

He who works for charity may gain the reputation of a good Samaritan, but the good Samaritans are not all good dentists.

There never was a greater error than that spread in the community that dentists are poor business men. Assurance, zeal, confidence and firmness are the elements by which a man is judged.

—*Progrès Dentaire.*

DEATH DURING NARCOSE.—It is reported from Olmütz, Germany, that the wife of Deputy Borée died while under the influence of pentol during a tooth extraction. The case attracted considerable attention, and hundreds of persons assembled before the dentist's house. The narcose from pentol was considered till then as altogether not dangerous. The dentist cannot be accused, as he had warned the patient against the narcose, but she insisted on it.

—*Zahntechnische Reform.*

At the thirty-first annual meeting of the Central Association of German Dentists, held in Hanover, April 19th, Dr. Walkhoff-Braunschweig delivered an interesting lecture on "The Application of Electricity to Dentistry." While he considers electricity an important agent in dentistry, he discards the use of primary batteries, preferring a current generated by dynamos, the use and action of which he described in detail.

—*Journal fuer Zahnheilkunde.*

A CHINESE ANESTHETIC.—In his report of the hospital at Sutschow (China), Dr. Lambuth mentions a case in which he used cocaine for local anesthesia. A Chinese physician, interested by the success, related to him, thereupon, that they have in China a similar drug, namely, the dried juice of frogs' eyes. Indeed, the drug, which is prepared in a Chinese apotheker, is credited with a strong anesthetic influence.

—*Zahntechnische Reform.*

A new dental journal, *Odontoskop*, has appeared in Buda-Pesth, in Hungarian and German languages, with Dr. Joseph Iszlar as chief editor.

We wish our contemporary long life and prosperity.

—*L'Odontologie.*

Monthly Gossip.

DR. WM. E. BLAKENEY.

HE WHO IS USEFUL is the incarnation of the highest religion or creed.

HAZLETT says that the last pleasure in life is the sense of discharging our duty.

DR. FREEMAN never wipes out a cavity that is ready for filling, with carbolic acid, except it is a devitalized tooth.

A PHILADELPHIA publisher contemplates bringing out an edition of Shakespeare in words of one syllable, for use in the primary schools.

DR. MILLER, in the *Dental Practitioner*, says that he depends on cocaine for obtunding sensibility at the outset. He uses zinc sulphate as a protective covering instead of cotton saturated with sandaric.

"It is an interesting fact in the history of bacteriology," says J. H. Linsley, in the *Ohio Journal*, "that the first authenticated record of drawings of bacteria were made from micro-organisms discovered in mucus from the human mouth, by Leewenhock, in 1883."

TO REMOVE rust stains from nickel plate, the *Dental Office and Laboratory* says, "grease the rust stains with oil, and after a few days rub thoroughly with a cloth moistened with ammonia. If any spots still remain, remove them with dilute hydrochloric acid and polish with tripoli."

DR. MILLER classifies the organic and inorganic substances of the mouth which serve as food for micro-organisms, as follows: normal saliva; buccal mucus; dead epithelium; dental tissue softened by acids; exposed pulps; exudations of the gums, and accumulations of particles of food.

DR. EUGENE S. TALBOT contends that "the constant extraction of the permanent teeth from one generation to another before the osseous system has been fully completed, is developing a race of individuals with small jaws." The time is rapidly approaching when extracting teeth, unless an absolute necessity, will be a statutory offence.

PAIN caused by biting on a filled tooth when eating, whether the filling be gold or amalgam, comes, in the opinion of Dr. Marshall, from the hypersensitive condition of the dentine itself. The

doctor's practice is to remove the filling, clean the cavity thoroughly, swabbing it out with carbolic acid (95 per cent.), and then refilling the tooth.

DR. BARRETT says that a bur is a very dangerous instrument to introduce into a pulp chamber. Where it is necessary to enlarge the opening into a canal, the excavator, he thinks, is the only safe thing, because we know what progress has been made with it. The bur, he contends, buries itself in its own *débris*, so that its exact position cannot be definitely determined.

IN SPEAKING of neuralgia resulting from root fillings, Dr. Freeman claims that imperfect manipulation is responsible for the trouble. "Some operators," he says, "run the instruments through the end of the root canals, causing an extra-apical inflammation." "I believe," he says, "that more reflex trouble comes from improperly capped dental pulps than from any other cause."

DR. EDWARD C. KIRK, editor of the *Cosmos*, favors getting the opinion, for publication, of the whole profession in the United States on certain details of practice, especially filling roots of pulpless teeth. Opinions regarding the filling of pulpless teeth, and kindred topics, from reliable sources of information, would doubtless prove instructive to the profession, though theorizing about the treatment of pulpless teeth has become threadbare already from frequent handling.

"THE CONDITION of the Dentine in Pulpless Teeth," is the subject of a paper read by the editor of the *Dental Practitioner* at the annual meeting, in June last, of the American Medical Association. "Ignorant minds," said the essayist, "necessarily look to the seat of pain, or other disturbance, as containing the disease. In our time the cellular pathology of Virchow has given a strong impulse toward more local conception, and bacteriology seemed for awhile about to convert all pathology into the local action of microbes. But the opinion grows, that it is not so much the bacteria as their ptomaines, diffused by the hematic and lymphatic circulations, which cause disease.

JOHN S. MARSHALL, M. D., Chicago, believes in extraction and replantation in cases of obstinate alveolar abscess. He says: "This form of alveolar abscess is usually the result of a crooked root, or an abnormally small canal, or of perforation of the root in attempts to open small canals, or erosion of the apical end of the root, or the presence of broaches, filling materials, or dressings which have passed the apical foramen. There may be a discharge of pus more or less constant, or there may be a chronic induration of the tissues,

with alveolitis. Such teeth are usually condemned to the forceps, but by extraction and replantation a majority of them may be saved."

DR. MILLER, of Berlin, believes that gutta-percha is one of the best materials at our command to use in places not exposed to the action of mastication. The doctor also endorses the use of cement to retain gold fillings, and describes the method of using it as follows: "The bottom of the cavity is covered with cement in a soft condition, one or more pellets or pledgets of cohesive gold pressed into it, care being taken that the upper surface of the gold does not become in any way contaminated by the cement. As soon as the latter is thoroughly hardened, the operation of building on the gold may be proceeded with. Naturally a very adhesive, quick-setting cement is desirable.

DR. FREEMAN indulged in some pretty plain talk at a late meeting of the Chicago Dental Club. Among other things he said: "There is little satisfactory, definite pathological literature even in medical works. We have more literature on paralysis than on neuralgia. When we get down to dental literature it all runs along the line of local pathology, and it is good. We will always have just as much suffering from careless operating as we have had in the past, so long as men are grasping after the almighty dollar. So long as dental colleges grind out students without thorough preparation; encourage them to enter college without preceptors; without any preliminary reading; take them through in two years and give them a diploma; just so long we will have a great many neuralgic affections caused by peripheral irritation."

H. C. WOOD, M. D., professor of materia medica, etc., University of Pennsylvania, at the instigation of the editor of the *Cosmos*, has investigated the physiological properties of chloride of ethyl and pental to determine whether these drugs can be of service as practical anesthetics. The doctor says: "Chloride of ethyl is at present largely used as a local anesthetic agent, which acts not by virtue of any inherent anesthetic properties, but on account of the intense cold produced by its extraordinarily rapid volatilization. The extreme volatility of the chloride almost proves, *a priori*, that any effect which it may have on the human system will be of correspondingly brief duration, since very volatile substances are thrown off from the lungs with rapidity. This *a priori* reasoning is entirely confirmed by our direct experiments." The doctor demonstrates that either ethyl or pental as anesthetics are dangerous drugs.

Our Question Box.

WITH REPLIES FROM OUR BEST AUTHORITIES ON DENTISTRY.

[Address all questions for this department to DR. E. N. FRANCIS, Uvalde, Texas.]

Question 39.—*What exercise or recreation do you consider best for the average practitioner?*

Saw wood before breakfast. *W. W. Evans, Washington, D. C.*

Horseback riding, rowing, or spirited walking.

W. J. Jameson, Thomaston, Me.

If at the seaside, rowing; if in the country, a drive.

W. S. Elliott, D.D.S., M.D., Sag Harbor, N. Y.

Any that takes him into the open air and brings into action those muscles least used in office work.

F. J. Bradner, Pulaski, N. Y.

Walking or horseback riding. For recreation, read something funny, engage in mirthful conversation with friends, or participate in some harmless game that will detract the mind from all things else.

T. G. Cartwright, D.D.S., Van Alstyne, Texas.

I think that is for the dentist to decide for himself. I prefer horseback riding, as it exercises every muscle, and a spirited animal diverts your mind from professional duties.

Dr. R. W. Allan, Monticello, N. Y.

That exercise bringing all muscles into moderate use, and, at the same time, giving the greatest mental diversion. That suited to the young might be seriously objectionable to the aged. Our recreation should be governed by individual peculiarities, surroundings, and requirements.

Annie Hayes, Sherman, Texas.

It has been my habit for years past to ride out a few miles in the country, when the weather will permit, or take the Rev. Dr. Beecher's advice and spend an hour in sawing stovewood, which he said had been his daily custom for years.

L. Betts, Duquoin, Ill.

I consider walking the very best. After breakfast walk four or five miles, and the same after supper. For recreation, have a hobby of some kind to take your mind from business. Bicycle riding, boating, fishing, fancy poultry, horticulture, etc.

I draw the line at all games and clubs that lead young men to gamble. My hobby is fast trotting horses.

B. F. Carmichael, Schenectady, N. Y.

I would recommend horseback riding as the best exercise for the average practitioner. It infuses electricity and brings into healthy action the very muscles and organs needing such stimulation as riding will give. Walking is fatiguing to the practitioner who is on his feet all day at his chair. Horseback riding invigorates the body and gives cheer to the mind. I speak from experience.

Chas. E. Francis, New York.

I keep a horse and take care of it myself. I have done so for more than fifty years. I ride every morning before I go to the office, and again in the

afternoon. In winter I ride at 4 P. M. one hour ; in summer, at 5 or 6, as circumstances will permit, before eating supper. I am always rested after my ride, and fit to read or enjoy the evening, or go to bed.

J. A. Robinson, Jackson, Mich.

Any exercise that does not call the lower limbs into severe service. The lower extremities of the average dentist usually do more than their proportionate share of physical service. A few minutes on the horizontal bar will call into requisition and develop the muscles which are dormant while we are operating. A drive with congenial company of a different profession will usually act as a pleasant panacea for a tired mind, while the inhalation of fresh air of the suburbs and country will render it unnecessary to purchase an ozonizing apparatus.

L. B. Torrence, D.D.S., Chester, Ill.

Question 40.—*I have a patient wearing a gold crown, and the gum has grown down so as to nearly cover it. What is the cause and cure ?*

Cause: Unskillful work. Treatment: Remove and adjust properly.

W. W. Evans.

Irritation. Should remove all fungus growth at once with sharp lance. After treating you will probably have no more trouble.

W. J. Jameson.

The crown is undoubtedly too long, or a deposit has formed on root. Remove and make it fit snugly ; work sulphuric acid up under the gum every ten days till well. If the crown fits well use the acid and it will be all right in a short time.

B. F. Cormichael.

Do not know the cause, but I had a similar case successfully treated as follows : I opened the pockets around crown, filled them with iodine, and in a short time it was entirely well. There was a slight discharge of purulent matter around the crown.

Dr. R. W. Allan.

A morbid excrescence caused by some irritant beneath the gum. Perhaps upper edge of crown should be burnished, as it may have small granules of cement or tartar. Remove cause, moisten a smooth wood tooth-pick in carbolic acid and pass it beneath gum far as it will go.

F. J. Bradner.

The cause is probably irritation of periodontum by impingement of the gold crown. Remove the crown, deplete the gum with lancet and stimulate with zinc chloridum 10 grains to an ounce of water. On returning crown see that it does not go too far under the free edge of gum.

W. S. Elliott, D.D.S., M. D.

I consider the cause an ill-fitting collar, or collar set too far on stump. Treatment in this case would be imminent. If, upon examination, it should be ascertained that the above was not the cause of trouble, I would cleanse parts thoroughly, cut gum to normal proportions, cauterize and treat with some mild antiseptic or astringent.

T. S. Cartwright, D.D.S.

The edges of gold crown probably irritate the gum or dental ligament, causing the tumid or hypertrophied condition referred to. Pass a small sharp sickle beneath the inflamed border of gum and around the edge of crown, to remove any roughness of the gold ; also, work small thin burnishers around the border of crown, to force it against the neck of tooth,

making as snug a fit as possible ; apply instruments as suggested in reply to fourth question.

Chas. E. Francis.

Constitutional peculiarities render some more susceptible than others to gum troubles, which, added to local irritation, caused by an ill-fitting gold crown impinging on the gum or alveola, might be sufficient cause for such a condition as stated in question. There should be a close adjustment to the cervical portion of tooth, with edge of crown beveled closely, and when thoroughly burnished to cervix, see that all extruding cement is thoroughly removed. This being done will, at least, place the fixture in an attitude to favor a healthy condition of surrounding tissue. Fungoid gum enlargement may be attendant upon devitalization and discharge around tooth from socket.

Annie Hayes.

The case in hand is evidently a growth of tissue excited by some slight irritation. You will meet with such growths when caries have destroyed the tooth structure till the free margin of gum hangs over the rugged edge of the cavity. The tissue thus irritated grows by the multiplication of its component elements till the cavity is filled with a superfluous aggregation of elements. It is a proliferation of cells in the formation of tissue where the exciting cause, which is a slight irritant, is only sufficient to excite an abnormal multiplication of tissue elements, whereas a more severe irritation would precipitate this chronic inflammatory process into an acute form and terminate in a suppuration. So we conclude the trouble in this case is a slight irritation. It may be that the band of the crown does not fit the root perfectly, leaving an abrupt angle in contact with the gum. It may be a deposit of salivary or sanguinary calculus, or a sharp edge on the rim of the crown.

Treatment : Remove the cause of irritation ; cut away the superfluous gum ; cauterize the wound, and prognose a cessation of the trouble.

L. B. Torrence, D.D.S.

Have had two cases under treatment of similar character : One, a lady patient wearing a crown, made from continuous gum tooth, fastened with gold band. The gum is nearly in the condition you describe. The septum of gum between incisors had grown down to their cutting edge, and were much inflamed ; the gums about molars and bicuspidals also inflamed. I cut off the gums and applied Dr. Dodge's remedy, published in March number of *ITEMS*, and gave them both a vial of Dr. Rigg's preparation to bathe the gums with. The first case is sound and well, and the other is nearly so, and would have been entirely, had he kept up the treatment. I never give Dr. Dodge's remedy to a patient to use on account of its corrosive nature and difficulty of using, but many of my patients keep Dr. Rigg's preparation at home and use when necessary.

L. Betts.

Question 41. *How do you prevent your dental cuspador from becoming offensive ?*

Keep it clean.

W. W. Evans.

Wash it immediately after each patient has left the chair.

W. S. Elliott, D.D.S., M.D.

I wash mine every night in boiling water, and have no trouble.

W. J. Jameson.

I keep it clean. If kept clean, it will not be offensive.

J. A. Robinson.

Wash thoroughly every day and put in carbolic acid and chloride of lime once a week.

B. F. Carmichael.

By cleansing of blood, after each operation, and rinsing once a day with carbolized water.

T. S. Cartwright, D.D.S.

After each operation, flow a stream of water into it for a few moments. Use a china cuspador, as copper will retain some odor.

F. J. Bradner.

Have office assistant wash thoroughly after each operation, when bleeding occurs; and if in very warm weather it becomes so offensive that water will not suffice, sprinkle with pulverized charcoal.

Annie Hayes.

I never allow it to remain long enough to become offensive; but should it happen, through carelessness, to remain uncleansed, I would wash with a solution of carbolic acid.

L. Betts.

I have a fountain cuspador, which is self-cleansing. The ordinary cuspador needs frequent rinsing and occasional scalding, especially in warm weather. A few crystals of crude carbonate of soda or borax may be kept in the cuspador all the time; also add three or four drops of oil of lavender or cloves.

Chas. E. Francis.

At the end of each day's operations, wash with as much regard for cleanliness as you would the china that is to receive your supper, using alkali and warm water. This insures cleanliness, and a scrupulously clean cuspador is without odor.

L. B. Torrence, D.D.S.

I have my cuspador cleansed every night, and after cleaning I put in a small quantity of chloride of lime. I find it is not always the cuspador that is offensive, but where there are carpets on the operating floor they are often spattered with medical agents, etc., which are often spilt from the cuspador. I have had a hardwood floor placed in my operating room, which is readily cleaned, and my office never has that peculiar odor often found in dental offices.

Dr. R. W. Allan.

[Try wood ashes moistened with water:

E. N. F.]

Question 42.—*Septum of gum between incisors much inflamed and bleeds easily. Gums about molars and bicuspid are also red and angry looking, apparently about to recede. What can be done to arrest the trouble?*

Treat thoroughly with sulphuric acid and bicarb. soda, and prescribe equal parts of tincture of myrrh and cinchona, to be used once a day as a wash. Have patient brush teeth and gums four times a day, and repeat the sulphuric acid and bicarb. soda in four weeks, if necessary.

B. F. Carmichael.

First, be sure that every vestige of calcarious deposit is removed; then hunt for and pack into every pocket, from which there is any pus exudation, some lint loaded with iodoform, wood creasote, or some other reliable disinfectant. Treat the gums generally with some active stimulant. The patient doubtless needs some constitutional treatment.

T. S. Cartwright, D.D.S.

Should treat for Rigg's disease.

W. J. Jameson.

Remove all traces of calculus and dress the gum with :

R—Zinc chloridum.....grs. x.
 Acid carbolio.....gtt. xx.
 Glycerine.....
 Aqua.....āā ʒss.

Force the remedy well under the free edge of gums once or twice a day till improvement is manifested, then less frequently. Other treatment might be suggested.

W. S. Elliott, D.D.S., M.D.

By passing a very thin scalor high up beneath gum you will find very thin scales of tartar. Treat as in second question.

F. J. Bradner.

Inflammation of septum caused, no doubt, by roughness on the teeth—most common a deposit of calculus. Remove all roughnesss, polish teeth, and instruct patient to rub gums with a soft linen cloth, folded over the index finger. Use a soft brush for cleansing.

L. B. Torrence, D.D.S.

I imagine this condition due to local irritants. Pass a small scaling instrument carefully around and between the affected teeth to free from scales of calculus or other deposits; syringe freely with tepid salt water; inject listerine or iodide of zinc; apply tincture of iodine, and have the patient frequently dust the inflamed margins with powered borax and tannic acid (mixed). Keep up this treatment for a reasonable length of time. Possibly you have a case of incipient pyorrhea alveolaris.

Charles E. Francis.

This condition will seldom exist without local irritation in the form of tartar or neglect of cleanliness. Irritation caused by plate worn in proximity to gum may also cause this condition. Deplete gum from congested blood after removing tartar, etc., excise all fungoid festoons, allowing thorough bleeding. If caused by plate, trim so as not to impinge the gum and direct daily brushing. These conditions will seldom occur from constitutional or predisposing causes alone.

Annie Hayes.

The circulation is obstructed, the gums glutted by a superabundance of blood producing inflammation and often suppuration. Negligence (the parent of pyorrhea) and excessive use of tobacco are the two great causes of this condition. I have seen cases where the gums entirely covered the crowns of lower bicuspid, speedily reduced to a normal condition and made well by the application of the "Robinson Improved Remedy" for pyorrhea. Where I have a case of tobacco chewing, and the patient uses two pounds a week, I make them cut down the amount to one-quarter of a pound and the gums can be restored perfectly.

J. A. Robinson.

Question 43. *What is the best method of crowning a first upper bicuspid? Patient is a lady, and the tooth too conspicuous for a gold crown. The root is bifurcated, and, therefore, a single pin crown inadmissible.*

D. W. B.

Different methods of crowning have appeared in back numbers of ITEMS. We prefer a porcelain crown with band or capped root. If you use a Logan crown, split the pin with thin file or saw, and bend into desired shape. The Parmly Brown two-pin bicuspid can also be used.

Question 44. *My little girl, four and one-half years old, has small cavities in her upper centrals. I wish to fill them soon. What is the best material? I don't think I can get her, or any child of her age, to remain quiet long enough to fill with gold. Cements do not prove satisfactory unless kept dry till perfectly set or hardened, so I was thinking of using amalgam. What do you think of that? Would the mercury in it come in too close contact with the large pulps in those small teeth?*

J. F. J., La.

In many cases we prefer the nitrate of silver treatment. In filling, as you suggest, we prefer to use cement capped with amalgam, or a combination of the two well incorporated on the mixing slab. Gold or amalgam alone is often unsatisfactory in these cases. Your second question will appear later. We have recently seen a patient eighteen years of age with nearly a full set of temporary teeth, and a number of cases where temporary cuspids are doing duty at thirty years of age. We have never tried crowning them, however.

Question 45. *What is the cause and best treatment for delayed dentition.*

AN ARAB D.D.S.

Various causes, singly and combined, interfere with the processes of dentition in the temporary and permanent teeth. Sickness, constitutional tendencies, lack of proper nourishment, etc., etc. The too early extraction of the temporary teeth, will delay the eruption of the permanent ones, as will also the failure to remove them at the proper time, if nature fails in her part. There is no regular treatment applicable to these cases. Our only hope is to stimulate the system with proper food, help nature without overdoing it, and add a large amount of patience to our prescription, with a good balance of time thrown in. These cases require individuality—a study of patients, surroundings, etc.—your judgment must do the rest.

A curious Christmas present was promised by a barber in Pottsdam, Germany, to his customers. He informed them that on the week between Christmas and New Year he would extract teeth free of charge. But there was nobody to claim that present.

—Zahn technische Reform.

Drs. Robinson and Lentz, of Falls City, Neb., have placed a double set of teeth in the mouth of a lady ninety-eight years of age. This reminds us of an instance in our own practice while in Winona, Minn. We made, for a lady sixty-five years of age, of feeble health, a double set, and was sharply reproved for it, as a waste of money, by one of her sons. But the old lady took great comfort with them, growing stronger by being able to properly masticate her food.

Notices.

The annual meeting of the South Dakota Dental Society will be held in Huron, September 27th, 28th and 29th.

F. O. Sale, Secretary, Huron, S. D.

Allow me to compliment you for the first-class, practical journal you are furnishing the profession. It is, as its name indicates, truly "items of interest."

W. O. Butler.

Dr. A. Fisher, of Warren, Pa., died at his home, on June 30th, 1892, of heart failure, at the age of sixty-six years. He began the practice of dentistry thirty-five years ago, and continued up to the time of his death. He was one of the pioneers of the profession in this section of the State.

The Indiana State Dental Association, at their last annual meeting, elected the following officers: President, R. W. Van Valzah, Terre Haute; Vice-President, W. M. Hindman, Vincennes; Secretary, G. E. Hunt, Indianapolis; Treasurer, R. T. Oliver. The Association will meet at Indianapolis on the last Tuesday in June, 1893.

G. E. Hunt, Secretary.

The South Dakota State Board of Dental Examiners will meet in regular session at the office of Dr. F. O. Sale, in Huron, South Dakota, on Tuesday, September 27th, 1892, at 1 o'clock P.M.

As hereafter certificates will be issued by the board only when in regular session, all persons desiring to commence the practice of dentistry in the State of South Dakota prior to the regular meeting next year, are requested to meet them at the time and place stated above, prepared to have their diplomas passed on or to be examined as to their qualifications.

W. H. H. Brown, Secretary.

The First District Dental Society, of Illinois, will hold its annual meeting at Peoria, September 13th, 14th and 15th. A very interesting program is being prepared, and a good meeting assured. Please make an announcement of the same in your September number, and oblige.

W. O. Butler, Secretary.

The officers of the society are: E. K. Blair, Waverly, Ill., President; W. A. Johnston, Peoria, Ill., Vice-President; W. O. Butler, La Harpe, Ill., Secretary; O. M. Daymude, Monmouth, Ill., Treasurer.

For Our Patients.

CONTENTMENT.

DR. J. A. ROBINSON, JACKSON, MICH.

Dedicated to my Friends who have seen Eighty Years.

Not old nor lame, nor halt nor blind,
But well preserved in frame and mind ;
My hearing is a little tough,
Perhaps I've really heard enough.

My home is pleasant, clean and neat,
The inmates lovely, kind and sweet ;
With comforts rare my table's spread,
My sleep is sound, and soft my bed.

Of this world's goods no more I crave,
If they will last me to the grave.
The great beyond will soon be here,
The path is peaceful, vision clear.

You ask me why I do not sigh ?
It is because we never die.
This world's a link in endless chain,
We decompose to live again :

Where we our olden friends will meet,
When the gestation is complete.
You ask me how that fact I know ?
My reason says it must be so :

For God who made the world and plan,
And made it for the home of man,
Did not make man for gain or pelf,
But in the image of Himself.

With heart and soul with love to burn,
And love his Maker in return.
He could not leave the work undone,
And so he sent a perfect Son

To show how it would take effect,
And in the end would resurrect.
So Christ appeared at early dawn ;
Both Marys saw Him in the morn.

The angel rolled the stone away
Just at the dawning of the day ;
A symbol of the rising sun
That the new life was now begun.

His angel robes shone as the light,
His face shone with effulgence bright ;
He told the Marys "not to fear,
For Christ has risen—is not here."

The Marys then believed the word
That they should see the risen Lord.
At Emmaus He appeared again
And talked with His two chosen men.

He left the two men in the street,
And met eleven who sat at meat ;
They did not recognize His face
Nor know Him 'till He said the grace.

Through all the Gospels and the Acts
Of the Apostles are these facts.
In ancient history of Rome
We learn that various acts were done ;

We may not get the truth exact
But still have record of the fact.
Macaulay's England tells of fact
That may not always be exact.

Plutarch's history of lives and men
Show they were great and not in vain ;
The record of the very fact
Perhaps is not the most exact,

But still we have the distant view
And we believe the record true.
The evidence is very small
Compared with what is told by Paul.

Damascus was the chosen place
Where Saul would meet Christ face to face,
An enemy intent to slay
The Saviour on a certain day.

Christ met him with a shining light
Before he had a chance to fight
And said : " Why persecute thou Me ?"
The light was bright ; Saul could not see,

But said : " Who is it that I hear ? "
The answer came, Saul shook with fear,
He knew the voice ; he could not see ;
It said : " Why persecute thou Me ? "

As if to make it still more plain,
The Christ gave Saul His real name.
This record written out by Saul
After his name was changed to Paul

ITEMS OF INTEREST.

Is fact and no legend or fable,
And told by a man amply able
To give the facts he heard and saw
Without a blemish or a flaw.

This record, if it stood alone,
Will stand a million years to come
As it has stood in all the past,
And will not fail while time shall last.

The Book has been revised again
By scholars and by learned men.
No one who reads the story through
Can fail to see it must be true.

He who in life would lead the van
Must always be an honest man ;
He must be brave, he must be right
To be a hero in the fight ;

Arkwright was hero of the spinner,
And Paul the hero of the sinner ;
He never let his labor cease,
But followed Christ, the Prince of Peace ;

Watts gave the steam the world to free,
And Franklin electricity.
Lincoln was hero in freedom's cause,
And Grant to execute the laws ;

All were a part of nature's plan
To raise and elevate the man,
The protoplasm that we know,
The lowest form begun below,
Is just as sacred in its place
As man is to complete the race.

From center to circumference I think it must be true
That life's reaction always has a higher life in view ;
The granite rock, the mineral, was first to re-appear ;
Next came vegetable life, and that not very near.

Through earthquakes and commotion, upheaval and turmoil,
The granite rock was crushed and broke to make alluvial soil ;
Next came vegetable life, the very lowest form,
Warmed by the sun and wet with rain for moss to grow upon.

Thro' years of change and waiting long the higher grasses came,
And then the reptiles, then the birds, the order is the same ;
So all along these million years the higher order ran ;
The onward march has never slept till it came up to man ;

And so I think you cannot fail to fully see and know
That man retains some vital part of everything below.
We find in man the mineral in tissue and in blood,
Then vegetable comes along the very self-same road,

And then at last the animal, the lowest form of man,
 And that must be the order that our human life began.
 God's providence is over man and all the things we know,
 But man has also providence o'er little things below ;

Man's providence is over land, to plough and till the ground,
 To beautify God's providence and smaller things around,
 To make two spears of grass to grow where one had grown before,
 To build the cities and the schools, and help the needy poor,

To take the elements of earth and make them better still,
 To make himself and other things obedient to God's will.
 God's kingdom, if it comes at all, must come thro' human hands ;
 We all must work together as we beautify the lands ;

Our duty and our privilege is to press along while here,
 And when the other life shall come we nothing need to fear.
 If it is true that man retains a portion of the past,
 The finished life will lead him to the heavenly life at last.

As birds look up with little eyes the mother birds to see,
 So we by constant looking up can see Infinity.
 Now, my old friends of four score years, say, how is it with you ?
 Have I shown you the great beyond, and made the picture true ?

Does the new world we're going to your hungry souls invite,
 And way across the valley dark do you behold the light ?
 If you do not, go meditate upon the heavenly day,
 Listen to hear the heavenly voice, and work and watch and pray.

THE DENTIST RECEIVES A SURPRISE.

Windy City, though full of life and prairie dog holes, was not the ideal place for dentistry.

The new dentist had succeeded fairly, considering, but not as well as he at first anticipated.

"They have a 'tooth carpenter' over at Alkali Flats," said Sam Petes, the Mayor, one day, while taking a glass of "trantular juice" with Bushy Smith, and Bob Simus, the City Marshal.

"Is that so?" asked Bob.

"Yes," returned Bushy Smith, turning to Bob, "and a feller what lives there told me he was fixed up fit to kill. Why he told me he had two rooms, and they was papered all over with red and gold paper, and he had a sofy and chairs that had cushions on 'em, and that he actually wore a biled shirt every day."

"Now, we air not goin' to stand that, air we, Bob?" returned the Mayor.

"That's what we ain't," replied Bob.

"Now I make a motion," spoke up Pete Biggs, the bartender, to Sam, "that you as Mayor, and one of the prominent citizens of the city, be appointed a committee of one to call on our dentist and have him get a finer outfit than that feller in Alkali Flats, or adjourn business."

"That's what," seconded the Marshal.

"And I move that, as protectors of the peace and influential citizens, we go along, too, in case he should take offense at our suggestions," continued he.

"I second the motion," promptly returned the Mayor; "we ain't goin' to have no little one hoss town like Alkali Flats have a tooth dentist what has a finer shop than we have," he continued, "air we?"

"You bet," chorused the crowd.

A few moments later the dentist was startled from his work by a heavy tramping in the hall. The door opened and Sam Petes, the Mayor, stepped in, followed by the rest of the delegation.

"How'dy, Doc," saluted the Mayor, removing his hat and giving his belt a hitch.

"Good afternoon," responded the doctor, looking nervously at the Marshal, from who's belt gleamed a pair of six-shooters. "Have seats, gentlemen, and make yourselves at home."

"Thank ye, Doc, but we come on a little matter of business with ye this afternoon. Ye see, as citizens of this town we air obliged to keep up its reputation as bein' the only first-class town in this end of the kentry, so we concluded to call on ye and inform ye that unless ye did not make a better display than that feller at Alkali Flats, ye would be treated to a coat of the best tar the city affords, and a finishing touch of feathers put on hit and miss. Then last of all, a first-class ride out of town. We will have the band if ye like, but that will cost extra, and I a'low ye can git along without it."

"That's what!" broke in the Marshal.

"Now," continued the Mayor, "as I am the boss of this 'ere city, I will give ye just fifteen minutes to make up your mind."

"Well," returned the dentist, who, since his residence in Windy City, had become familiar with such delegations, "gentlemen, since my arrival in your city have I not conducted myself in a proper manner? Have I not been on hand on all occasions where I was needed? Did I not disarm 'Long Jake,' when he had the drop on you?" turning to the Marshal.

"That's what," replied Bob.

"Now, have I not been always ready and willing at any time to help in any scheme to make this one of the brightest stars in this prairie?"

"You bet," roared 'Squire Banks, who had joined the delegation.

"Now, gentlemen, I am not going to be outdone by any dentist. I want my office to be the finest."

"I knowed it," broke in Sam Petes; "didn't I tell you, boys, he was always with us?"

"And now," continued the dentist, "as soon as I can get money enough to refurnish my office and fix up, I am going to do it."

"Money, did you say?" retorted 'Squire Banks, "who said you needed money?" "Hain't 'Squire Banks got the largest furnishing house in this city?"

"You bet he has," replied the Mayor, "and what you can't pay for, I guess I have a few steers runnin' loose on the prairie yet, and don't you forget it. We will fix up the finest shop you ever saw. And now," continued the Mayor, turning to the Marshal, "run over to Pete Biggs' saloon and order a dozen drinks of the 'worst pizen' in the ranch."

"Come on, Doc, and take something."

"No, thank you," returned the dentist; "I don't drink."

"Well, did you ever," Sam Petes was heard to remark, as he closed the door behind him; "he's the only decent man in town."

The office was "fixed up," for who would not have a fine office when there were so many friends ready to help. If the dentist had managed the whole plot he could not have worked it more advantageously into his hands. *H. W. Gooderl, Cherokee, Kansas.*

A WOMAN DENTIST.

SHE RUNS TWO OFFICES AND FINDS TIME FOR PHILANTHROPIC WORK.

Dr. C. G. Turner is the only woman who has passed the Board of Registration in dentistry in New Jersey.* She is not only a skilful dentist, but a remarkable woman in many ways, having two offices which she visits daily.

She is a great humanitarian, a strong advocate of temperance and woman's suffrage, and is also interested in the kindergartens and whatever promotes the welfare of children.

* My daughter, Mrs. S. C. Slade, of Millville, N. J., is a member of the New Jersey Dental Association, and is a royal associate with her husband in his dental practice.—ED. ITEMS.

Dr. Turner was born in Ohio and educated in Indiana, where she was at one time a public school teacher. She went to Boston, where she was graduated from the kindergarten, being a protégé of Mrs. Peabody. Mrs. Turner went to New York, determined to take up dentistry, but found that the College of Dentistry in New York refused to graduate women. She then matriculated at the Woman's College of the City of New York.* It is well known that this college requires a higher standard to matriculate than any male college in the city.

Mrs. Turner began her training in dentistry under her husband, Dr. J. A. Turner. It is said she has conquered every branch of dentistry, both mechanical and operative. In the morning at 7, when the weather is fine, she rides the tricycle for an hour; at 9 goes to her office, where she remains until noon; after luncheon taking the train and going to her other office, remaining there till evening.

She is a woman of broad mind, and takes deep interest in all the leading topics of the day. On Sunday she teaches an infant class of one hundred children, and is also interested in improving the condition of the colored race.

When asked if she liked dentistry, Dr. Turner replied, "Certainly; every woman should enter the field for which she is best fitted, and where her strongest inclinations lead her." When asked if she met many obstacles in her practice owing to her sex, she smiled and replied: "Well, yes, at first; but I find doing good work overcomes most of them. One day a lady entered my office and asked, 'Is the doctor in?' I replied, 'I am the doctor; can I do anything for you?' With a disdainful toss of the head she replied, 'No, indeed; I don't want any woman practicing on me,' and departed.

"Another time two gentlemen entered and asked for the doctor. When I answered 'I am the doctor,' they looked at each other in dismay. Finally, one remarked that he had a tooth needing a little attention. I examined his teeth, and before he left the chair I had filled two and drawn one. He then said it was the most satisfactory work he had ever had done, and frankly admitted that when he found I was a woman he wanted to go right out, but did not like to; so decided to have one drawn, if it killed him. Now this gentleman and all his family come to me for their dental work, and have sent me many customers.

*The founder of this college graduated in the same college class with me. She was a hard worker, a thorough student, and a fine lady.

"My thoughts on the 'woman' question? I think if women could vote, many of our present difficulties would be at an end. It would make a great difference with the temperance question; also, with the injustice in the industrial world. If women do the same work as well as men they should be paid for it at the same price. The standard of morality would be higher, as a man would be judged by the same standard as a woman, and only those of irreproachable character would be elected to offices of trust. For instance, it has been proved that a woman can become as good a dentist as a man; yet the New York colleges will not graduate a woman, for no other reason than that she is a woman. Here again is the Woman's College, requiring a much higher standard to matriculate than the male colleges. Why should this be? If we are capable, why not grant us equal rights, so long as many must depend on themselves as bread winners?"

"It is all nonsense to think that a woman will be any the less womanly because treated with fairness. Ten to one, many would never vote unless compelled to do so to put the right man in for self protection. The mere fact of the privilege being theirs would be sufficient."

In Passaic, Dr. Turner has organized cooking schools, sewing schools and kitchen gardens, as well as the kindergartens. The Turner drum corps is composed of protégés of the doctor, who have named their band in her honor. She has many friends, and is widely known throughout the United States by those interested in philanthropic work of all kinds. It is said by her friends that she devotes the whole income of one of her offices, which amounts to from \$3,000 to \$4,000 a year, to charity in aid of children only.

J. Holland.

Seeing Dr. J. Z. Husband's "ad." for his "handy helper" for securing immediate suction of all kinds of dentures, in the last issue of the *ITEMS*, I put up the price (\$1.00), and now, for the benefit of the boys who may not be quite as big a fool as I was, let me say that it is a powder known as gum tragacanth, and can be had of your druggist for a few cents an ounce.

This ad. is a rank fraud, and should be exposed. It will not tend to inspire confidence in the class of ads. admitted to the pages of any journal, I am sure. "A fool and his money are soon parted." Next!

Frank J. Raymond, Canton, Ill.

Current Notes.

Dr. J. H. Bland, of Pueblo, Cal., had a New Jersey lawyer call, the other day, to have "the moss taken off his teeth."

The Haskell Post-Graduate School, of Chicago, is still prospering. I judge so by the many words we hear in its praise.

Dr. Abbott says that he considers the preservation of exposed pulps one of the greatest achievements of modern dental surgery.

The chair of histology, in the University of Pennsylvania, was offered to Dr. Miller, who has accepted it. The doctor is well known to the dental world as professor of dentistry during several years, in the University of Berlin.

Dr. G. T. Phillips, of Rutland, Vt., says common stove blacking, of the consistence of cream, covering the packing of Whitney vulcanizers, makes the joint very tight. Our own experiences has showed this to be good, and there are probably many with whom this will not be new. Some, however, will be thankful for the information.

A correspondent of the *ITEMS* wishes to know why the counter die metal adheres to the die. If it is the right proportions (lead 5, tin 1), there is, of course, not the danger as if all lead; but, as further precautions, coat the die with whiting, and stir the lead till it begins to thicken around the margin, and never pour in one spot, but rather dump it.

L. P. Haskell.

There are all manner of excuses made for the use of tobacco. We now hear it said that its use as a "chaw" keeps the teeth clean. We have been a dentist a good many years, and never saw a clean-mouthed tobacco chewer, though we have seen the mouths of many who did not use it beautifully clean. It is true, as a mop it does, after a manner, clean the outer surfaces of the teeth, but it leaves the internal surfaces so nasty and full of the stinking stuff, they had much better have used a piece of their wife's mop-rag.

Stop grumbling and complaining. If you are not doing well, there is more blame in yourself than in any one else. If you are misused and misrepresented and belittled, spunk up, and make it a means of self-betterment. The main causes of trouble, and the

main sources of improvement and success and happiness, are within you. Arouse your dormant faculties, your sluggish spirits and your God-given will, and bring them into activity. If a little abuse, or much, will stimulate self-discipline and economy and a general improvement, better pray for more abuse.

A hard-hearted, uncouth, blundering man is out of place in our profession. A dentist must have nerves attuned to delicate music, passions alive to the purest sympathy, and fingers sensitive to the most delicate accuracy and skill. His must have the refinement of the true gentleman, the culture of the ripe scholar, and the suavity of the general favorite. No parlor should be more esthetic than his office; no surroundings more tasteful, and no etiquette more correct. Professional in his bearings, clean in his habits, and equipped for his work, his patrons must be able to confide in both his character and skill.

AS AN ILLUSTRATION of how happily things dovetail and fit into one another in this world, vegetarianism comes along as a new fashion, just as Sir James Crichton-Browne, who is out on a physiological hunting expedition, has made the wonderful discovery that we are to lose our positions as carnivora. At the present rates of estimate the time is calculable when we will have no teeth. Out of 1,861 children under twelve years that passed under his critical inspection, only 104 had normal teeth, needing neither filling nor extracting. Various temporizing expedients are suggested, such as school inspection of teeth, for which there will doubtless be a municipal dentist. The outlook is surely awfully awful, excepting to those registered as "mechanical" dentists.

The city is full of young men who can't do any one thing well; who wander about from one occupation to another, in the vain search for some easy means of earning a livelihood without any effort of mind or hands. They are not willing to acquire either strength of mind or skill of hands by any means of study or apprenticeship. They are waiting for the dawn of their genius, for the day when they will stumble on to fame and riches—especially the latter—but they are not willing to earn either. Successful men assure us that genius is merely a capacity for hard work, of patient and unlimited drudgery. Young men are unwilling to accept the drudgery of the slow and painful acquisition of skill and the mastery of details of doing small things well, which are inseparable from accomplishing success of any kind.

Editorial.

TIME IS THE ONLY TEST.

When we removed our office from Winona, Minn., to New York City, we brought a letter of introduction to a prominent dentist located near where we intended to be. After reading it, he said: "I am glad to meet you, and will do what I can for you. I have seen some of your work. It looks very nice; yet you know it is impossible to judge from appearances. Time is the only test."

How true this is. The dentistry of the present is much prettier than that of the past, but how much of it is short lived? Some tell us this is because teeth are getting worse. Perhaps the difference in the teeth is not so great as the difference in the dentist. We are rushing things more now, rushing to college, rushing to practice, and rushing in practice. When it took an apprenticeship of three or four years of practical work to prepare for independent business, there was not so much fine spun theory, but there was more preliminary experience. But some one may reply: "I know some who, in those 'good old times,' of which you speak, spent less than three months, instead of three years, in a dental office before setting up for themselves." Yes, and we know some, in these modern times, who have gone from the plow to the college, after putting in their master's winter wheat, and before snow was off it, they were college made "Professional Gentlemen." Let us hope both these absurdities are past repetition. Whatever our colleges in the future may bring forth, they are certainly now deluging us with a rush of young fledglings, many of whom are a disgrace to the profession, and this rush of incompetents has been going on for years. Among our college professors are good dentists. We wish there were no exceptions. We know there is an improvement in both professors and graduates. Let the improvement go on. Let us have artistic, "pretty" work—everything beautiful and esthetic,—but let it be also substantial and enduring.

A HEROIC DENTIST.

We saw an heroic dentist the other day. He asserted that the only way to fill or extract well was to do it as though it did not hurt. The patient that had just left the chair called this cruel. It looked so to us. The dentist said it was only heroic. After the patient left we said to him :

"I don't see how you can hold your patients ; I should think one such experience would last a life time."

"Oh, well," he replied, "I lose a few timid ones, but these are a pest any way. Most come back that are worth having, for all know I do good work ; and the fact that I do good work in spite of their remonstrances of pain commends me to others."

"But are you not unnecessarily hasty and rough?"

"Perhaps so ; but I gain more by its being known that I am thorough than I lose by the reputation of being rough ; and as for haste one must be in haste to make his work pay. Besides, I impress my patients with the thought that the more I hasten the sooner they are released."

"But how do you get along with children?"

"Not at all. I am glad there are dentists who have time and patience to work for both fidgety women and whimpering children."

How glad I am there are just such a class as the latter, and that the other class are very small.

In July ITEMS, we referred to a student of ours who was extremely slow, awkward and thick-headed, but who in spite of these drawbacks became a careful, accurate, painstaking helper. It may encourage some who are of his lethargetic, obtuse, blundering class themselves to know what became of him.

In six months I gave him wages, so that he left his printing office and spent his whole time with me. He sent for his family, and they were very happy together. He now helped me at the chair. In two years he set up for himself in a neighboring village.

Though he continued to be slow, he could be depended on for good work; and he made himself so useful in the church and in society, that he was a favorite with every one. He is now, and has been for years, one of the leading dentists of Minnesota, and the State Dental Society has honored him as one of its presidents. His business has prospered from the first; in five years he owned a nice home, and he and his intelligent wife and children are still happy in it.

He is not a genius; he is not even clever; he is still slow; but he keeps at his work so constantly and faithfully that he accomplishes as much as many who work faster.

In this we also learn that though a man may be a failure at one thing, he may be a success at another thing; and that because a person is a failure at many things for many years, you may help him find a field in which he may succeed.

That there is a great difference in amalgams for filling teeth is generally conceded. A recent writer treating on amalgams says: "Brittleness being one of the weaknesses of amalgams, every possible precaution should be taken to prevent thin and sharp edges." One would suppose this writer had gone back to the time when a committee reported to the New Jersey Society, "That after examining among a large number of specimens on the market we find little difference in them. They are all coarse in texture, rough in surface and brittle in substance. They shrink in hardening, blacken in use and are unreliable in duration."

Now, we thought to ourself, if this is so, I will see what time and patience and skill can do to improve it. For two years we worked at it, till we found that by using a proper proportion of gold, platina, silver and tin, these defects were overcome. We gave out samples during the second year to the best and most thoughtful dentists of the State, and at the end of that year we had the pleasure of having that same association pass a resolution of commendation. There are few who do not know of its success.

COMPOUND FILLINGS.

One of the greatest economies in operative dentistry, and the best class of fillings for large cavities, are compound fillings of alloy or oxyphosphate as the main filling, with gold as a cap; or oxyphosphate as a filling and alloy as a cap. These are not only more economical than all gold, but better. An all gold filling can not be put in as perfectly as alloy or oxyphosphate, and yet, when capped with gold, the filling is as presentable as all gold. The advantage of filling a large cavity with oxyphosphate and capping with alloy is, that if the oxyphosphate is used soft and is of good quality, it adheres to the walls of the cavity, and is, therefore, impervious, while the alloy is more enduring as a surface.

All these fillings may be allowed first to harden, and then a portion cut out for capping, or the capping may be incorporated with the filling while soft. If the latter, only a small portion of the capping material is pressed into the filling while soft, and then, as the filling sets, more is added, first next to the walls, and gradually extended to the center, and then sufficient is added to complete the filling. Or a thin plate of gold can be fitted to the shape of the cavity, and, after two or three short pins are soldered to the under side, it is pressed on to the soft filling. If you are not sure of its articulation with other teeth, first fill the cavity with wax, and try it on; if on the grinding surface, the plate should conform to the contour of the tooth.

Also, after a root has been properly prepared, a gold ferrule of thin gold plate may be made, and this capped with a plate of the same material for a grinding surface. Then fill both the skeleton tooth and the root with oxyphosphate and place in position. It makes a durable artificial tooth.

It is a poor education that is only a storing of the memory. This may make encyclopedias, but it is not the sum of education. Education in the broad, completed sense is the cultivation of all the faculties of body, mind and spirit,—the passions, muscles and will,

—the harnessing up, equipment and discipline of the man for practical use. Of course this includes knowledge of things ; but unless facts, as they are gathered, are made use of, and thus converted into wisdom, arousing the man to inspiration in thought and science, in planning, acting and skillfulness, thus developing, maturing and perfecting character,—facts, or even the arrangements of facts into theories, are of little use. There must be wisdom as well as knowledge, and wisdom is acquired only by the thorough study and application of what we know. But even wisdom, to be practical, must be manipulated into tact and skill.

Too many of our schools treat their scholars as farmers fatten turkeys, by cramming. Knowledge without dexterity to use it,—even college demonstrations, without much and repeated participation in them,—leaves the scholar egotistic of what he knows, but incompetent in what he does. The boy that has been kicked about by the sharp toes of poverty, adversity and necessity, and has never seen a college, and has been only chore boy in a dental office, can beat him at practical work.

We would not underrate learning, nor extol ignorance ; we would not deprecate the college graduate, nor unduly advance the flippant tyro ; but we would avoid the evils of both.

The people will find you out ; don't be discouraged. If you have merit you will have success, and if you lack in merit you may acquire it. Though merit and success come slowly, wait patiently, and while waiting, work, think, study.

Of course you must not hide yourself, nor in your modesty disclaim your abilities, nor fold your hands and expect people to trouble themselves about where you are, or what you can do, or what you would like to do. Come out among them and show yourself, not as a mountebank, but as a sensible fellow. Investigate your situation thoroughly and size yourself up honestly ; interest yourself in public affairs, and do your part in them ; discern the mean between officiousness and timidity, and your turn will come.